Massachusetts Year 2006 Integrated List of Waters

Responses to Public Comments Pertaining to the Proposed Listing of the Condition of Massachusetts' Waters Pursuant to Sections 303(d) and 305(b) of the Clean Water Act

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Introduction

This report summarizes and presents responses to the comments received on the *Proposed Massachusetts Year 2006 Integrated List of Waters* that was prepared by the Massachusetts Department of Environmental Protection (MassDEP) in fulfillment of reporting requirements of sections 305(b) (Summary of Water Quality Report) and 303(d) (List of Impaired Waters) of the Clean Water Act (CWA).

The integrated list format provides the current status of all previously assessed waters in a single multi-part list. Each waterbody or segment thereof is placed in one of the following five categories:

1) Unimpaired and not threatened for all designated uses;
2) Unimpaired for some uses and not assessed for others;
3) Insufficient information to make assessments for any uses;
4) Impaired or threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); or
5) Impaired or threatened for one or more uses and requiring a TMDL.

Thus, the waters listed in Category 5 are the 303(d) List and, as such, are reviewed and approved by the EPA. The remaining four categories are submitted in fulfillment of the requirements under § 305(b).

The availability for public review and comment of the *Proposed Massachusetts Year 2006 Integrated List of Waters* was noticed in the June 7, 2006 edition of the Massachusetts Environmental Monitor, was posted with the proposed integrated list on the MassDEP web site, and was provided directly to over fifty different watershed associations and other interested parties. Copies of the document were available from the Division of Watershed Management's Watershed Planning Program office in Worcester. The public comment period ended on August 4, 2006.

This document summarizes and provides responses to all comments received on the *Proposed Massachusetts Year 2006 Integrated List of Waters*. In most cases, the comments are reprinted here in their entirety; however, some of the longer comment letters were excerpted or paraphrased, and some comments were edited slightly to conform to the format adopted for this document. A final version of the *Massachusetts Year 2006 Integrated List of Waters*, incorporating the comments and responses presented here, will be prepared and submitted to the EPA for final approval of the 303(d) List (i.e., Category 5). The following table presents a list of those who submitted comments and the pages on which they appear in this document.

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Responses to Comments on *Proposed Massachusetts Year2006 Integrated List of Waters*

1) Pembroke Watershed Association, Inc.

Comment: This letter addresses a concern about the placement of great ponds in specific categories of impairment. The Pembroke Watershed Association is a volunteer group of concerned citizens, formed in 2004, for the purpose of gaining stewardship of the four great ponds in Pembroke, MA: Oldham, Stetson, Furnace, Little Sandy Bottom Pond, and Hobomock Pond. We have conducted water quality tests on each of these ponds over the last year and will continue to do so for the foreseeable future. With full support from the Town of Pembroke we have developed a system of comprehensive and evidence based water quality testing to address the problems identified in our ponds in earlier studies (1993 by Baystate Environmental Co and 2001 by CEI). We believe our findings to be very accurate and descriptive of the current problems that exist within our ponds.

We have tested for the following: Nitrates, nitrites, total nitrogen, pH, alkalinity, TKN, ortho-phosphorus, total phosphorus, chloride, conductivity, and turbidity. Our water chemistry tests are accomplished by grab samples, from boats, utilizing standard testing protocols, and taken by accepted chain of custody to Analytical Labs in Middleboro, Ma. We utilize a DO meter to measure dissolved oxygen and a Secchi disc for water clarity. Furnace and Oldham ponds are tested monthly from May to October given their condition, and Stetson and Little Sandy Bottom Ponds are tested three times during the summer and fall.)

Response: The MassDEP wishes to thank you for your concern about water quality conditions in Pembroke and your on-going efforts to obtain water quality data. This kind of information is important and can assist the Department in determining water quality conditions and trends over time. Since listing water bodies on Category 5 of the state integrated list (list of impaired waters) results in potential regulatory actions, the Department must also ensure that all data collected for this purpose meet standard criteria to make them defensible in a court of law. To this end, the Mass DEP has established criteria for receiving and evaluating scientific data and information from outside sources, such as other state and federal agencies, universities and citizen monitoring groups. MassDEP will accept and review data and information pertaining to the quality of Massachusetts' waters if the following are provided: 1) an appropriate Quality Assurance Project Plan (QAPP) including a laboratory Quality Assurance/Quality Control (QA/QC) plan, 2) use of a state certified lab (certified for the applicable analyses), 3) a description of data validation and management QA/QC, and 4) all of the information is documented in a citable report that includes the QA/QC analyses. Although your data are important for a variety of reasons, including those that are non-regulatory in nature, it is the Department's understanding that a QAPP has not been prepared for the monitoring program undertaken by the Pembroke Watershed Association (PWA), nor does your 2005 Water Quality Testing Report present quality assurance data or other data validation information. In addition, the certification status of the laboratory cannot be determined from the information in the report. While these factors do limit the usability of these data for the direct purpose of assessing and listing waters for reporting under sections 305(b) and 303(d) of the Clean Water Act, this by no means calls into question the worthiness of the Associations monitoring efforts, and the data and information contained in your report are relevant and useful for meeting the goals of the monitoring program, as stated on page 1 of the report. If the Association is interested in developing a QAPP for future activities, the Department can provide guidance for this purpose.

Comment: We are aware that Furnace Pond was previously listed as a category 5 impairment due to low DO/eutrophication along with Stetson Pond. Oldham Pond is listed as category 4 (c) impairment due to noxious weeds. We read the proposed Massachusetts year 2006 integrated list of waters (CWA sections 303d and 305(b) with great interest. We agree that Furnace Pond must remain a category 5 impaired pond.

However, we question the following:

Stetson Pond (Taunton watershed) has been listed as a category 5, impaired due to nutrients, organic enrichment/low DO, and exotic species, since 2002.

Oldham Pond (South coastal watershed) has been listed as a category 4 (c), impaired due to exotic species, since 2002.

Our chemical analysis and physical findings do not support the above findings. Our 2005 monthly averages for six sites on Oldham pond are as follows:

	May	July	Aug	Sept	Oct
Average Secchi disk (feet)	4.0	3.0	2.0	2.0	3.5
Average DO (mg/l)	8	8.78	4.72	7.77	11.69
Average Turbidity (NTU)	3.42	27.17	31.50	26.17	5.4
Average Total Phosphorus (mg/l)	.04	.06	.12	.18	.09
Average Total Nitrogen (mg/l)	.5	1.82	.98	1.17	.5

Our 2005 bimonthly averages for three sites on Stetson pond are as follows:

	July	Sept	Oct
Average Secchi disk (feet)	13.0	6.0	7.5
Average DO (mg/l)	7.29	8.22	10.26
Average Turbidity (NTU)	2.92	6.1	1.67
Average Total Phosphorus (mg/l)	.07	.03	.16
Average Total Nitrogen (mg/l)	.05	.05	.05

We have enclosed the water quality report submitted to the Town of Pembroke in April 2005 for your review. All of our data analysis is included.

It is our belief that Oldham pond should be considered a category 5 impaired pond, with documented high nitrogen and phosphorus levels throughout the summer, low DO, documented algal blooms, sections of the pond that are choked with weeds, and high turbidity, low secchi disc readings. This pond is contiguous with Furnace pond and both ponds have similar problems.

We also found Stetson to be in good shape chemically, with one spike in phosphorus readings at one site in October due to bog effluent. We found no problems with DO, turbidity, secchi disc, and no documentation of widespread algal blooms or weed growth. It is our belief that Stetson should be changed to a category 4(c) impaired pond with some weed growth in the bog inlet area.

Response: The basis for the original listing decisions pertaining to both of these ponds was the Diagnostic/Feasibility study (BEC, 1993) cited in this letter, and a substantial body of information was available to support those decisions. In the case of Stetson Pond, a Class A tributary to a public water supply, multiple questions relating to the quality and representativeness of the PWA's data (see previous response), unfortunately, do not presently allow for the removal of the pond or associated pollutants from the 303(d) List (i.e., Category 5). Based on our review of the data several questions still remain relative to the water quality issues associated with Stetson Pond. First, high watershed and internal loadings of nutrients to this pond have been documented in the past, factors not measured as part of the PWA's monitoring program. In addition, the stressor "organic enrichment/low DO" was applied to Stetson Pond due to significantly low dissolved oxygen values in the hypolimnion (i.e., at depths approaching 15 feet) determined from dissolved oxygen measurements taken at multiple depths throughout the water column. PWA's dissolved oxygen measurements were typically taken at a single 4' depth that is not indicative of the worst-case condition with respect to dissolved oxygen content. Finally, populations of non-native ("exotic") species may still exist in Stetson Pond. Macrophyte mapping or taxonomic identifications are needed to evaluate this issue but were not included in the PWA report.

The limitations discussed above with respect to the use of the PWA's monitoring data for 303(d) listing decisions also apply to Oldham Pond. It is important to note that currently there are no numerical standards for nutrients in the Massachusetts Surface Water Quality Standards and the MassDEP does not place waters on the 303(d) List solely on the basis of nutrient concentration data. The tea-colored water exhibited by Oldham Pond may further complicate productivity responses and data interpretation, particularly with regard to turbidity and secchi disc readings. Furthermore, dissolved oxygen values were generally not as low as the PWA suggests. Again, no dissolved oxygen profiles were obtained, but the "worst-case" average dissolved oxygen concentration reported in this comment letter for six sites in August represents a combination of open water sites, inlets, pipes and culverts and is not consistent with the dissolved oxygen values presented in the data report. Finally, the report refers to documented algae blooms and weed-choked sections of the pond, however information necessary to support this position such as chlorophyll data, phytoplankton counts or weed-mapping information is not provided in the report. Therefore, while it may yet be determined in the future that Oldham Pond is impaired by stressors over and above the presence of "exotic species", the MassDEP cannot place this waterbody on the 303(d) List on the basis of the evidence presented in the report.

2) The Coalition for Buzzards Bay

(As an introduction, the Coalition for Buzzards Bay's letter stated: "Please accept the following as The Coalition for Buzzards Bay ("Coalition's") formal request to include additional embayments as Category 5 waters on the Department of Environmental Protection's ("DEP's") proposed Massachusetts Year 2006 Integrated List of Waters. The Coalition is a non-profit membership organization dedicated to the restoration, protection, and sustainable use and enjoyment of Buzzards Bay and its watershed. We represent more than 4,700 individuals, families, organizations and businesses in southeastern Massachusetts who are committed to maintaining the health and ecological vitality of the Bay.

Pursuant to §303(d) of the Clean Water Act, each state shall identify those waters within its boundaries for which effluent limitations are not stringent enough to implement any water quality standards applicable to such waters. 33 USC §313(d)(1)(A). It is under this legal framework by which the Coalition offers the following comments".)

Comment: As a preliminary assessment, the Coalition is pleased to see that the DEP has added Little River, Nasketucket River Squeteague Harbor, Apponagansett Bay, Eel Pond in Bourne, and Eel Pond in Mattapoisett as Category 5 waters in need of a TMDL for nutrients. However, based on the Coalition's water quality monitoring data, which meets the DEP's and EPA's reliability requirements as discussed above, further inclusions are required. The Coalition requests that the following waters be added to the Commonwealth of Massachusetts' 303(d) list of Category 5 waters requiring a TMDL for nutrients.

Water Segment	Municipality
Aucoot Cove (Inner)	Mattapoisett
Broad Marsh River	Wareham
Butler Cove	Wareham
Herring Brook	Falmouth
Little Bay	Fairhaven
Little Buttermilk Bay	Bourne
Little Sippewisset Marsh	Falmouth
Mashpaquit Creek	Falmouth
Nonquitt Marsh	Dartmouth
Onset Bay (Broad Muddy Cove And East River)	Wareham
Pocasset Harbor (Inner)	Bourne
Sippican Harbor (Inner)	Marion
West End Pond	Cuttyhunk Island
Wild Harbor River	Falmouth
Wild Harbor	Falmouth

Sufficient data exists demonstrating a consistent decline in water quality due to nutrient pollution in the above listed waters. Notably, the Coalition has requested in previous 303(d) list comment periods that Little Buttermilk Bay, West End Pond, Wild Harbor River, Aucoot Cove (Inner), Broad Marsh River, Little Sippewisset Marsh, Little Bay, Sippican Harbor (Inner) and Wild Harbor be listed as nutrient impaired. The Coalition's extensive data on these waters show that their quality continues to decline. We respectfully request that these waters be listed as Category 5 waters on the 2006 list of impaired waters for nutrients, each requiring a TMDL.

The Coalition's extensive database on these waters is on hand for your review. Please contact us with content and format preferences so we can promptly make this available for you.

Response: As indicated by the Coalition, nine of the fifteen waterbodies listed above were included in a similar comment made by the Coalition during the public review of the proposed 2004 303(d) List. At that time the MassDEP completed a thorough review of the Coalition's information package included with their original comment letter, as well as additional clarification provided in a second letter from the Coalition to the MassDEP that included data and information obtained as recently as 2003. To supplement this review we consulted GIS eelgrass datalayers, the Massachusetts Estuaries Project "Site-specific Nitrogen Thresholds Document" prepared by Brian Howes, Roland Samimy and Brian Dudley, and the "Technical Memorandum: Buzzards Bay 303(d) List - Embayment Analysis" by Brian Howes and Roland Samimy (April 4, 2003). As indicated in the 2004 Public Comments and Responses document, this review led to the listing of six waters as Category 5 waters in need of TMDLs for nutrients. These waters were: Little River, Nasketucket River, Squeteague Harbor, Apponagansett Bay, Eel Pond (Bourne) and Eel Pond (Mattapoisett). The MassDEP's findings for those waters that were not placed on the 303(d) List for nutrients were provided in the 2004 public comment and response document and are also reproduced below for completeness.

Little Buttermilk Bay, West End Pond (Cuttyhunk), Wild Harbor, Wild Harbor River and Little Sippewisset Marsh were specifically cited by Howes and Samimy in the "Technical Memorandum" as having insufficient data or information to support including them on the 303(d) List. Nasketucket Bay, Inner Aucoot Cove, Broad Marsh River and Sippican Harbor either had very little data and information to support an assessment, or the representativeness of the Coalition's sampling location was questionable. The "Technical Memorandum" made no listing recommendation for Sippican Harbor or Broad Marsh River, and Nasketucket Bay supported stable eelgrass beds, an indicator upon which the DWM places substantial emphasis when assessing coastal embayments. Based on this evaluation, these waters were not placed on the 303(d) List. Onset Bay/East River is in Category 5 of the 2004 and proposed 2006 Integrated Lists for "pathogens" and "other habitat alterations". This latter stressor was added based entirely on eelgrass loss. As such, this impairment will effectively trigger a nutrient TMDL even though the data are not conclusive with respect to actually listing "nutrients" as a stressor. It should be noted that although we believe that insufficient information exists for listing purposes, many of these systems have been included in the Massachusetts Estuary Project (MEP) to develop the necessary data to justify future listing decisions and to develop TMDLs if they are found to be impaired. The following table provides a brief status report on those systems being investigated.

Segment	Status
Little Buttermilk Bay (part of the larger Buttermilk Bay system)	Data collection is underway and about 60% complete for this system
West End Pond	Data collection underway
Wild Harbor and Wild Harbor River system	Data collection is about 90% complete
Aucoot Cove	Data collection completed and analysis underway
Broad Marsh River (Part of the Wareham River System)	Data collection complete, analysis and report being finalized.
Sippican Harbor	Data collection complete, analysis underway
Onset Bay (including Muddy Cove and East River)	Data collection about 60% complete.
Nasketucket River (part of the Little Bay system)	Data collection completed; analysis being scheduled

Also, as indicated above, Howes and Samimy in their 2003 Technicial Memorandum concluded that, although Little Sippewissett Marsh showed modest nitrogen and cholorophyll *a* levels and low dissolved oxygen there is insufficient data relevant to salt marsh function to consider 303(d) listing at this time (i.e. this could be a natural condition).

Six waters recommended by the Coalition for listing on the 2006 303(d) List of Waters due to impairments related to nutrients were not included in their 2004 comment letter. These are: Butler Cove (Wareham), Herring Brook (Falmouth), Little Bay (Fairhaven), Mashpaquit Creek (Falmouth), Nonquitt Marsh (Dartmouth) and Inner Pocasset Harbor (Bourne). Little Bay has been included in the MEP. To date, data have been collected and analysis of the data is being scheduled. Mashapaquit Creek is part of the West Falmouth Harbor system. Data collection, analysis, and a TMDL have just been completed for this system and segment; however, there was insufficient time to review it for inclusion in the 2006 list. It will be considered for inclusion in the 2008 list. Little Pocasset Harbor is part of the Pocasset Harbor, Hen Cove and Red Brook Harbor system. Data collection is complete for this system and analysis is underway. Butler Cove is part of the Buttermilk Bay system. Data collection is presenbtly underway for this system.

Two of the segments identified above, Herring Brook and Nonquitt Marsh, are not presently covered under the MEP. Unfortunately, no data or information were submitted in support of the Coalition's comments on the proposed 2006 Integrated List, so the DWM is unable to make decisions relative to the condition and listing status of these waters at this time. Nonetheless, the Coalition is encouraged to submit data on these two segments or others as you choose in accordance with the MassDEP's requirements in anticipation of the next assessment of Buzzards Bay. The DWM has previously provided the Coalition with our guidelines for submitting data and related information for assessment and listing purposes.

In summary, as you can see from the above discussion, no additional data have been submitted by the Coalition to support the listings proposed nor to address previous Department concerns about the extent and coverage of the data collected. Nonetheless, the MassDEP has chosen to include the majority of segments into the Mass Estuaries Project in an effort to obtain the data needed for both listing and TMDL purposes. This process is well underway and should provide sufficient information to address the Coalitions' concerns. The Department remains willing to discuss the issues concerning data submittals if the Coalition wishes to do so.

Comment: In developing its list of all threatened or impaired waters, the DEP must consider the water quality data collected by the Coalition. Federal regulation dictates that in promulgating the 303(d) list the state shall assemble and evaluate all existing and readily available water quality-related data and information. Such information includes, but is not limited to, waters for which water quality problems have been reported by local, state, or federal agencies; members of the public, or academic institutions. These organizations and groups should be actively solicited for research they may be conducting or reporting. 40 CFR 130.7(b)(5)(iii).

The Coalition's water quality monitoring program was established in 1992 as a joint effort between the Coalition, the Buzzards Bay National Estuary Program and scientists from the Woods Hole Oceanographic Institution. Now supported by the Coastal Systems Group at the School of Marine Science and Technology (SMAST) at UMass – Dartmouth, over the past 15 years the program has developed into a premier model for citizen monitoring programs and consistently provides annual bay-wide data. In fact, the Massachusetts Estuaries Project ("MEP"), a collaboration between the DEP and the UMass School for Marine Science and Technology to evaluate water quality conditions in southeastern Massachusetts' estuaries, relies on the Coalition's data as background water quality data for Buzzards Bay and its 30 harbors and coves. The Coalition is often recognized in MEP reports as a partner essential in supporting nutrient related efforts around the Bay. Therefore, since the Coalition's data is actively solicited and used by both the state and academic institution it clearly meets the threshold of water quality data to be considered established by the Environmental Protection Agency under 40 CFR 130.7(b), and should be considered in promulgating this 303(d) list. Moreover, the Coalition's Quality

Assurance Project Plan ("QAPP") has been reviewed and approved multiple times by the EPA and DEP; approved in 1996, reviewed and approved in 2001 and reviewed and approved most recently in 2006.

Response: The regulation governing § 303(d) that requires states to "assemble and evaluate all existing and readily available water quality-related data and information to develop the § 303(d) list" does not mandate that states use all data and information regardless of the quality or representativeness of that information. In fact, the EPA strongly encourages states to establish minimum data requirements and acceptable criteria for submitting data for consideration for listing. The MassDEP has established minimum criteria for submitting data from external sources based on sound scientific principles and guidance from the EPA. Data can only be considered if they are in a format that can be analyzed and interpreted by the state within a reasonable time frame. The state may elect not to use data and information from external sources if documentation is lacking or incomplete with respect to the appropriateness of using the information to make judgments on use attainability. This may include insufficient information pertaining to sample collection procedures, QA/QC measures, representativeness of sampling sites and events, and whether data were collected under appropriate conditions for comparisons with water quality standards.

When formulating the Integrated List of Waters the MassDEP relies on watershed assessments that are completed in accordance with a rotating five-year watershed schedule and it does not complete a new assessment for every watershed each time a new 305(b)/303(d) report is due to the EPA. Thus, the most recent MassDEP assessment report for the Buzzards Bay watersheds, published in 2003, formed the basis for the 2004 and 2006 integrated lists. However, the Coalition's comments during the public review process for both the 2004 and 2006 proposed lists prompted reviews of the Coalition's data and information included in support of their comments, as described in the response to the previous comment.

The Department agrees that the Coalition's water quality monitoring program has developed into a model for citizen monitoring programs and consistently provides annual bay-wide data which is useful to obtain public understanding of the issues and trends in water quality throughout the Bay. MassDEP uses this information to cooraborate other information and data for assessment purposes however, as noted above, a number of questions remain regarding the representativeness and quality of the samples collected. Since the 303(d) list has legal standing, it is incumbent upon the Department to ensure that the data can be adequately defended if need be. It is for this reason we have developed minimum guidelines for data submittal where the data are intended to be used for either listing or TMDL development purposes.

3) Sudbury, Assabet and Concord Wild & Scenic River Stewardship Council

(By way of introduction, the River Stewardship Council (RSC) wrote: "The Sudbury, Assabet and Concord Wild and Scenic River Stewardship Council and the National Park Service are interested in this list because of the implications it has for the protection of the resources of these rivers. As you know, 29 miles of the Sudbury Assabet and Concord Rivers have been nationally designated as part of the Wild and Scenic River System. The National Park Service as the administering agency is responsible for long term protection and stewardship of the rivers' 'outstandingly remarkable resources' including scenic, historic, cultural, recreational and ecological values. The River Stewardship Council, comprised of representatives from each of the 8 shoreline communities, local non-profit organizations, state and federal agencies, works closely with the NPS to help protect the wild and scenic river. One of the greatest threats to these river's resources is impaired water quality, especially due to high nutrient levels, bacteria and metals. The RSC has focused much of its efforts on working to help reduce the nutrient load to the three rivers (Although metals are a concern, primarily in the sediment from the Nyanza Superfund, this large and complicated problem is being evaluated as part of the superfund feasibility studies).

Comment: The RSC is concerned that nutrients are not identified as a pollutant needing a TMDL in the Sudbury River. Recent data suggests that it should be. Water quality data collected by the State in 2003 and 2004 indicate that the river consistently violates water quality standards. In fact, as reported in the Wayland NPDES Permit Fact Sheet, results of instream monitoring of total phosphorus, chlorophyll a and

dissolved oxygen indicate the existence of eutrophic conditions. As stated in the Fact Sheet "…..Average upstream and downstream TP measured 0.083 mg/l and 0.11mg/l, respectively. Each of these results exceed the recommended Ecoregional Nutrient Criteria (0.024 mg/l) and the New England –wide criteria (0.020-0.022 mg/l). Furthermore, on several occasions, the upstream and downstream TP values exceeded the Gold Book criteria for free flowing streams (0.1mg/l), with maximum reported values of 0.53 mg/l and 0.68 mg/l respectively." These numbers are indicative of eutrophic conditions on the Sudbury River, and the List of Integrated Waters should reflect this.

Response: There are currently no numerical standards for nutrients in the Massachusetts Surface Water Quality Standards and the MassDEP does not place waters on the 303(d) list solely on the basis of nutrient concentration data. Evidence of eutrophic conditions, such as wide ranges in dissolved oxygen concentration, high chlorophyll levels or biological surveys that reveal algae or plant "bloom" conditions that result in one or more impaired uses, may be used to add waters to the 303(d) List. The most recent assessment of the SuAsCo watersheds performed by the MassDEP was published in 2005, and the listing decisions represented by the proposed 2006 Integrated List were based on this assessment. Data from several sources were evaluated by the MassDEP including both water chemistry and biological information. A review of this information provided little compelling evidence that nutrients, such as phosphorus were contributing to use impairment and the mainstem Sudbury River was determined to be supporting the aquatic life use. The data presented in the Fact Sheet for the Wayland NPDES permit were unavailable when the MassDEP completed its assessment of the SuAsCo watersheds. Nonetheless, these data were submitted by the permittee as part of its discharge monitoring reports (DMRs). They do not comply with MassDEP's requirements for external sources of data to be used in making assessments, nor do they adequately represent the eleven-mile long segment from which the samples were collected. A QAPP was not developed to guide this sampling effort nor were QA/QC data or other data validation procedures documented in a citable report. Therefore, while these data may be suitable for certain purposes pertaining to the development of the wastewater discharge permit, they are not considered adequate for assessing this river segment in accordance with guidelines established for reporting under sections 305(b) and 303(d) of the Clean Water Act.

Comment: Presently, there is only a narrative water quality standard for nutrients. The RSC strongly recommends that the State adopt numeric criteria for nutrients that reflect healthy water quality conditions. As evidenced above, there are sufficient resources and studies available which are specific to the conditions within Massachusetts to support appropriate numeric criteria. The EPA study by Mitchell, Liebman, Ramseyer and Clark (2004) utilizes the most current data and has been subjected to quality assurance measures, provides a strong case for numeric criteria that truly protects water quality.

Response: MassDEP is currently developing water quality standards for nutrients. In accordance with EPA guidance, numeric criteria are being developed for nutrients in both freshwater (lakes, rivers, and streams) and in coastal waters. In general, the Department believes that the most meaningful approach to setting nutrient criteria is to base them on attainment of designated uses. To this end, water quality data are being compared to observations and data on the attainment of "aesthetic" and "aquatic life" uses. Analyses of the relationships between nutrient concentrations and impairments (non-use attainment) will hopefully result in the identification of "threshold" nutrient concentrations, below which, no impairments occur (e.g. designated uses will be attained). Another approach being investigated is the development of quantifiable "translators" for the Massachusetts narrative standard (that simply states that nutrients can't occur in concentrations that cause impairments). This approach will entail the selection of quantitatively measurable indicators of nutrient impairments, and setting an acceptable or allowable limit for the indicators, such as dissolved oxygen concentrations that meet the water quality standards, a percentage of the bottom of wadeable streams that is allowed to be covered by nuisance algae without impairing aquatic life or aesthetic values, or a minimum acceptable water transparency that would be used to indicate unimpaired waters.

Marine waters (specifically estuaries) will be evaluated for site-specific, or embayment-specific, nutrient criteria because their unique characteristics (depth, width, flushing rate, watershed area and land uses, sediment type and amount, biological communities, nutrient load, and quality of incoming tidal waters) result in differences in the severity of the response to nutrient inputs. Criteria for nitrogen in coastal

waters will be developed by a phased approach: first, criteria will be developed for nitrogen-sensitive embayments in southeastern Massachusetts (Cape Cod, Buzzards Bay, Nantucket, Martha's Vineyard, and Mt. Hope Bay) by combined efforts of municipalities, MassDEP, and U Mass Dartmouth's School for Marine Science and Technology (partnering with the USGS, Cape Cod Commission, Applied Coastal, inc., and others) as part of the Massachusetts Estuaries Project (MEP). The criteria that will be developed by way of the MEP will be embayment-specific because each estuary, or embayment, reacts differently to nitrogen inputs (or loadings) because of differences in chemical, physical, and biological characteristics of each embayment. The second phase of the criteria development, for open coastal waters, will follow a process similar that used for the nitrogen-sensitive embayments, depending on available resources.

Comment: The Cedar Swamp Pond in Westborough is considered to be the headwaters, or source, of the Sudbury River and should be included on the Integrated Waters List. The 2001 Water Quality Assessment Report indicates that there has been fish and sediment sampling done in the Pond and this data should be reflected in the List.

Response: The Integrated List does not provide a complete inventory of all of the surface waters in the Commonwealth, nor is it intended to. This is because waters that have never been assessed by the MassDEP do not appear anywhere on the list. Waters that do not appear in any category of the list are, by default, Category 3 waters, but resources are unavailable to input the entire inventory of surface waters into the database where assessments are stored. Instead, waters are usually only added to the list as new watershed assessments are completed. Nonetheless, as the result of this comment the MassDEP will add Cedar Swamp Pond to Category 3 of the 2006 Integrated List of Waters.

4) Massachusetts Department of Fish and Game Riverways Program

(The comment letter began: "The Riverways Program's mission is to promote the restoration and protection of the ecological integrity of the Commonwealth's rivers and adjacent lands. We provide outreach and technical assistance to citizen groups and communities as well as being a primary advocate for rivers. The Integrated List of Waters is an important record of the status of our rivers and other waterways and the information in the List provides valuable guidance to Riverways staff and the river advocates we serve. We appreciate this opportunity to review the draft Integrated List and consider this an occasion to reflect on possible enhancements to the process of assessing and listing the Commonwealth's waters.")

Comment: There are many merits associated with the Department of Environmental Protection (DEP) decision to migrate to the integrated listing option. This reporting device affords more flexibility than the older 305b assessment and 303d listing method. This inherent flexibility allows for refinements to produce an integrated list capable of serving a wide range of audiences. In addition to providing a summary of water quality, the Integrated List informs many grant funding programs, management choices and resource allocation decisions. The List can also serve as the primary source of information for the general public on the relative health of their local waterways. We appreciate the challenge of crafting a listing to serve these many needs and hope our few general comments will help with future iterations to improve the usability of the Integrated List of Waters (the List).

Response: The MassDEP is appreciative of these comments and welcomes suggestions that will improve the usefulness of the List in the future. It is important to note, however, that the consolidation and distillation of comprehensive information is inherent in the use of lists and all of the information pertaining to the characteristics and condition of Massachusetts' waters cannot be adequately portrayed in list form. For this reason the MassDEP views the preparation of watershed assessment reports as the ideal way to summarize what is known about the status of the water resources in each watershed and to make the assessment and listing process as transparent as possible to the EPA and the general public. As such, the watershed reports are also considered a fundamental element of Massachusetts' submittal to the EPA under Section 305(b) of the CWA. Thus, while the List may "serve as the primary source of information for the general public on the relative health of their local waterways", it is not intended to do so as a stand-

alone document. Rather, the watershed assessment reports provide a more comprehensive assessment of Massachusetts' surface waters, and provide the documentation behind the listing decisions.

Comment: The List offers a helpful introduction by offering background information on our waterways and details on how the list was compiled but there are a few gaps. We have been asked by local advocates why many water bodies, including many named rivers and streams, do not appear in any of the integrated list sections including the unassessed section. There may be some frustration on the part of the public if they are not able to locate their local waterway anywhere in the listing. We feel it would be a reasonable goal to develop and execute a methodology for improving the list of water bodies using the most up to date data and GIS resources available from the different Executive Office of Environmental Affairs agencies and others.

Response: Historically, the MassDEP stored watershed assessment information in an electronic database developed and supported by the EPA called the Water Body System (WBS). Now, however, the MassDEP is planning to implement a new system promoted by the EPA called the Assessment Data Base or ADB. Due to resource limitations and other unforeseen obstacles encountered in transition to this new database, neither system is currently available, and the MassDEP relied on a temporary in-house "Integrated List" database for generating the various categories of the Integrated List for both the 2004 and 2006 reporting cycles. The WBS and "Integrated List" databases have never been populated with a file for every surface water or segment thereof in Massachusetts nor will the ADB likely to be populated in that manner. Rather, these databases will contain only those segments for which assessments of one or more designated uses were actually completed at one time or another in the past. As assessments are carried out in new waters, these will be added to the database resulting in greater representation of Massachusetts' surface waters in the Integrated List in the future. The MADEP acknowledges that with the new integrated list format, all surface waters could be categorized whether or not they have ever been assessed. However, the time and resources are currently not available to georeference all surface waters in Massachusetts and "front-end load" them to the ADB. Therefore, it is acknowledged that many of Massachusetts' surface waters that have never been assessed are missing from the 2006 Integrated List although, by definition, they are Category 3 waters.

Comment: This methodology could also further refine the process of working with local communities and advocates to prioritize unassessed waters. Public participation is a crucial and valuable resource and the List provides the appropriate forum to detail the public participation opportunities. Page 8 of the draft List provides a good description of the 5 year watershed-based process including the opportunity for public input. We would suggest as thorough an outline as possible on the specifics of becoming involved including outreach and notification methods, (how might the general public in addition to watershed groups and local officials learn about the availability of draft documents, monitoring plans, prioritization work, etc) specific avenues for input, (will there be written comments, hearings, information session, public notices, comment time lines, etc), how DEP and other agencies will respond to input/comments, the different partnership possibilities, and possibly a system to resolve disagreements. It seems likely the prioritization of unassessed waters, the addition of water segments not currently included in the List, and differing opinions on the status of individual water segments will be the main foci of the public participation. By having a detailed system in place, the public will understand their role in the assessment, prioritization, and listing process. Developing this public participation plan can, itself, benefit from public involvement. We feel the short-term expenditure of the agency's limited resources will provide a more efficient and consistent assessment.

Response: There are already available several opportunities for public input to MassDEP's water quality management program. Formal public participation is a fundamental feature of several program elements of the Clean Water Act (CWA). Public participation may take the form of attendance at meetings and hearings, or may involve reviewing and commenting on draft documents and reports. Public involvement is mandated by the CWA when states are establishing water quality standards, developing lists of impaired waters (i.e., 303(d) Lists), calculating Total Maximum Daily Loads (TMDLs) and issuing NPDES wastewater discharge permits. Furthermore, the rotating five-year watershed management cycle offers opportunities for public input in addition to the formal requirements of the CWA. For example, MassDEP communicates with watershed advocacy organizations and citizen monitoring groups when formulating

its' monitoring plans and solicits data and information from these groups when compiling information for making the assessments that feed directly into 305(b)/303(d) listing decisions later on. Moreover, an attempt is made to circulate Draft watershed assessment reports to outside organizations for review and comment. Nonetheless, the MassDEP will continue to look for ways to involve the public in its programs within the constraints of available resources and statutory obligations of the CWA.

Comment: Riverways staff have received feedback about the listing and assessment process from watershed advocates that provides some insight into the perceived impediments to public involvement and a thorough assessment of the State's waters. People want to know what agencies are doing to uncover the sources of degradation when unknown sources are noted as the cause of impairment. There are questions about how DEP develops its monitoring plans and selects which waterways will or will not be sampled and how an interested party can provide timely input. There is also a desire to see the percent of unassessed waters further distilled to a watershed level.

Finally, the perception of many people who have provided comments on specific water segments that run counter to the listed status is there is inadequate follow-up and/or feed back. Perhaps there needs to be some mechanism for response though the lack of staff and resources would make this option difficult to implement. At the least, commentors should be contacted directly when DEP is working on planning, sampling plans and data gathering efforts. As you have probably noted in past comments, many watershed advocates often find nutrients overlooked as a root or contributing cause to problems in waterways and the lack of response on this particular issue has been a particular cause of frustration.

Response: MassDEP recognizes the issues you raised and are continually trying to find reasonable ways within existing resource constraints to address these concerns. For instance, several years ago we received similar questions and comments related to how we could make our decisions more visible and provide more input for the general public in that process. In response we decided to develop more detailed water quality assessment reports that not only provide information on how our assessments are made but also more detailed information on potential pollution sources, water withdrawals, land use information, etc. for each segment reviewed. The decision to go to this format extended beyond our need to produce the Integrated List but also to address similar concerns and provide more valuable information to the public as well. The good news is that these documents have been well received by both the EPA and the general public. The downside of this approach is that it is much more resource intensive and has resulted in delays in compiling and assessing all of the information. In addition, this process has provided more opportunity for public input and involvement both when we formulate our monitoring plans and develop our assessment reports. The same can be said about the development of TMDLs. To this end MassDEP posts annually on our web site workplans that outline what we are working on and why, including, but not limited to, where monitoring will be taking place, assessments we plan on developing and TMDLs planned over the next year. These workplans can be viewed at http://mass.gov/dep/water/priorities/sggwhome.htm. In summary, we believe that MassDEP has been responsive to the concerns raised to the degree we can, have provided for and welcome public input during each step of the process. It must also be recognized however that resource constraints limit our capability to expand the process and still meet our Federal commitments. For clarification, a brief description of activities leading up to the development of the Integrated List follows.

As resources allow, the MassDEP develops watershed monitoring plans during the first year of the rotating five-year watershed management cycle. Data needs are evaluated in light of monitoring recommendations made in previous assessment reports, compliance and enforcement issues, priorities for TMDL and NPDES permit development and other demands for monitoring information. When formulating their plans for MassDEP's "Year 2" sampling effort monitoring coordinators make every attempt to determine what monitoring activities are carried out in the watersheds by other state and federal agencies, educational institutions and citizen monitoring organizations. Often the monitoring coordinators contact those groups to inform them of MassDEP's requirements for submitting and using data from external sources, although this information, too, can be obtained from the internet.

The process of developing the Integrated List, conducting the public review and gaining final approval from the EPA is, unfortunately, a long and laborious one so the MassDEP's responses to public

comments on the proposed lists have not been particularly timely. This is, in part, because of the amount of time and effort required to review and evaluate all of the individual comments and supporting documentation submitted during the public review period and, in part, due to the EPA's long and detailed review of the proposed lists. It has been MassDEP's practice to post on its website the final version of the Integrated List with public comments and responses following final approval of these documents by the EPA. Therefore, final responses to comments are often not provided until long after they are submitted. It is the goal of both the MassDEP and the EPA to provide more timely submittals and reviews of future lists. In fact, recent EPA guidance pertaining to the 2008 listing cycle states that "Timely submittal and EPA review of integrated reports is a key to demonstrating State and EPA success in accomplishing our strategic goals for restoring and maintaining the nation's waters".

Comment: We commend the DEP for its thorough explanations of process and criteria, though there are a few instances where clarification or further explanation would improve the readability of the List. For example, we have encountered many misunderstandings about water body classifications and the belief that the classification should reflect the existing water quality in the segment. Classification is a critical part of the impairment designation and it may be worthwhile to provide more explanation on the difference between designation (potential or expected) versus existing water quality.

Response: MassDEP has taken steps to lessen any confusion that may exist pertaining to use classification. Waterbody use-classifications are assigned as part of the standards-setting process and represent the water quality goals – not the current condition – of Massachusetts' surface waters. This is explained in the Integrated List report in a separate section describing the Massachusetts Surface Water Standards. Furthermore, waterbody classifications are not presented anywhere in the lists where they could potentially be misinterpreted as indicators of existing conditions. They can, however, be found in the individual watershed assessment reports.

Comment: On page 22 there is another example of a possible misunderstanding. The narrative references conditions of a *frequent or prolonged* nature. These terms are relatively vague and open to a significant degree of interpretation. This may partially reflect the nature of ecosystems and the differing sensitivity to a given pollutant or pollution aquatic systems possess. Perhaps the narrative could explain the difficulty of assigning specific time constraints or a range could be provided for some of the more critical parameters and pollutants.

Response: Throughout the tenure of the Clean Water Act the EPA has provided guidance to states for assessing, listing and reporting on their waters pursuant to sections 305(b), 303(d) and 314 of the Clean Water Act. Early guidance suggested that criteria for parameters, such as chlorides, temperature and turbidity should not be exceeded at any frequency. More recent EPA guidance distinguished between conventional pollutants and toxic pollutants when recommending the number of exceedances that constitute nonattainment of water quality standards. For many listing and reporting cycles waters were "fully supporting" a use if pollutants or stressors exceeded their criteria in less than 10% of measurements. Waters were "partially supporting" a use if criteria were exceeded in 11% – 25% of measurements, and "not supporting" if criteria were exceeded in >25% of observations. Still later the "partial supporting" and "not supporting" categories were combined into a single category called "impaired". For conventional pollutants waters were "impaired" whenever more than 10% of the water quality samples collected exceeded the criterion threshold. For toxics EPA recommended that acute and chronic aquatic life criteria not be exceeded more than once every three-year period on the average. The latest EPA guidance on making assessments derives heavily from their Consolidated Assessment and Listing Methodology (or "CALM") document, published in 2002, that sets the standard for using valid scientific data of known and documented quality for reporting on the status of the states' waters. Statistically, larger data sets provide a greater level of confidence when applying the general guidance described above. However, in many instances, data for making assessments are limited. The "CALM" document advises "generally, decisions should be based on small data sets only when there is overwhelming evidence for impairment". With this in mind, MassDEP employs the concepts of frequent and prolonged exceedances of standards to allow for "contextual decisions" to be made with regard to the representativeness of smaller data sets, without being constrained by more prescriptive guidance that involves the application of statistical treatments to large amounts of data. Although this approach is site-

and case-specific and difficult to describe in a generalized format, it allows those making the assessments to use informed judgment guided by knowledge of variations through space and time of relevant factors, such as pollution sources, landuse, hydrology, and weather conditions.

Comment: We would also like to request a bit of clarification about biological assessments. Mass DEP requires a completed RBP III, at a minimum, to include a segment on the 303(d) list. Is this level of assessment also necessary to include the water as 'assessed' and 'supporting uses' if a RBP II, not RBP III, assessment indicates moderately impaired? If the use of RBP II is acceptable than there appears to be some inconsistency in the policy.

Response: A detailed explanation of how the Mass DEP uses the results of biological surveys to assess and list waterbodies can be found in the 2006 Integrated List document. RBP III is the preferred protocol for analyzing benthic macroinvertebrate community data to determine the aquatic life use status. However, RBP II determinations of "no impairment" or "severe impairment" are generally considered definitive and are used to make listing decisions on a case-by-case basis. RBP II assessment leading to the determination of "moderate impairment" is not considered conclusive with respect to a waterbody's support of the aquatic life use and, in these cases, RBP III is required.

Comment: The parsing of category 4 allows regulators to focus on remediation strategies appropriate for the source of impairment instead of pursuing a single method, such as TMDL development, for all types of pollution and pollutants. Category 4c presents an interesting challenge as it must address 'nonpollutants'. The narrative in the List explains the categories and strategies to be employed for each category but does not provide specific information on how the 'nonpollutants' will be addressed and what the time line will be for initiating action. This information would be a welcome addition by providing interested parties with a general outline of what and when action will be taken to rectify impairments.

Response: The CWA distinguishes between "pollutants" such as nutrients, metals, pesticides, solids and pathogens that all require TMDLs and "pollution" such as low flow, habitat alterations or non-native species infestations that do not require TMDLs. Waterbodies impaired by "pollution" were included in Category 4c. The restoration of these waters will require measures other than TMDL development and implementation, which will vary considerably depending upon the nature of the impairment. Furthermore, the measures needed to alleviate some "nonpollutant" stressors may exceed the authority of the Clean Water Act, thus necessitating the application of other statutes or, in some cases, voluntary actions by other parties. For example, two of the most common stressors appearing in Category 4c of Massachusetts' Integrated List are "exotic species" and "flow alteration". In 2002 the Massachusetts Office of Coastal Zone Management published the Massachusetts Aquatic Invasive Species Management Plan ("AIS Plan") that was created by a working group consisting of 18 representatives of 14 state and federal agencies, as well as private and public entities. Following guidance provided by the federal Aquatic Nuisance Species Task Force, the work group formulated a plan for aquatic invasive species management in Massachusetts with the goal of "implementing a coordinated approach to minimizing the ecological and socio-economic impacts of aquatic invasive species in the marine and freshwater environments of Massachusetts". The AIS plan outlines specific tasks, identifies lead agencies and budget and, as such, provides the framework for controlling non-native species in waters listed in Category 4c. Likewise, "flow alteration" is not an impairment that can be corrected through the calculation and implementation of a TMDL. Nonetheless, Massachusetts faces a huge challenge to maintain sufficient quantities of streamflow that will meet anthropogenic demands for water while sustaining aquatic ecosystems. To meet this challenge the Massachusetts Executive Office of Environmental Affairs convened a Water Policy Task Force that, in 2004, issued its "Massachusetts Water Policy" consisting of ten major recommendations for working effectively with municipalities on several water resource management elements, including water supply development, wastewater reuse and recharge, stormwater recharge, infrastructure maintenance and resource protection and restoration. In response to one recommendation, MassDEP has prepared a Draft Guide to Water Resource Management Planning that provides information to municipalities interested in preparing plans to address a wide range of water resource issues including the need to provide an adequate, reliable and safe water supply, treat wastewater and manage stormwater runoff without adversely impacting the quality and quantity of the Commonwealth's waters. MassDEP has received comments on the Draft Guide and is in the process of

responding to these comments. MassDEP intends to publish the final Guide in 2007. Where applicable, waters identified in Category 4c as impaired by "flow alterations" will be managed through implementation of the Water Management Act (WMA). In other instances, comprehensive planning at local and regional levels will be most effective in restoring and protecting waters impaired by low-flow conditions. Finally, while only Category 5 waters are candidates for TMDLs, other water protection and restoration measures funded by federal or state grants (e.g., CWA section 319 and 604(b), etc.) are applied to waterbodies in categories 4 or 5.

Comment: Riverways staff have reviewed many of the individual watershed assessments. The field data collected by DEP is the foundation of the assessments. The reliability of this data is crucial and DEP has developed a sound QAPP and data validation process to insure the rigor of their data. The data validation and usability process can be time consuming but the timeliness of the data is equally important because of the constraints on data use if the information is over 5 years old. A problem has occasionally developed where data collected in the two or three years prior to the compilation of the Integrated List are not available because the data has not been validated. This same data may than be too old to include in the next Integrated List. With water quality sampling done only once during the five year watershed assessment cycle in each watershed, delays in validation and availability result in an unfortunate situation with field sampling efforts being underutilized. Hopefully the DEP has been able to redirect resources to allow for a quicker turnover of field water quality data. Does DEP have a policy or a goal of when field collected data will be QA/QCd and available for use?

Response: MassDEP acknowledges that the completion of watershed assessments is substantially behind schedule due to the loss of data management and assessment personnel over the past several years. More recently, however, the MassDEP has been able to hire some new staff members and a strategy for catching up on the assessments is in development. The plan will identify ways to streamline the assessment process and complete each watershed evaluation at a timelier pace. A preliminary schedule has been formulated that will result in MassDEP's watershed assessments being approximately 50% caught up by the submittal of the 2008 Integrated List and completely caught up by the 2010 listing cycle. Although the timeframe to completely catch up on the assessments remains somewhat lengthy, MassDEP is also taking steps to more rapidly review and validate survey data and complete technical memoranda that will provide more timely data and information for general distribution. With the hiring of additional QA/QC and data management personnel it is a goal of the MassDEP to complete data validation steps and make final data available for general use within twelve months from the time the samples were originally collected.

5) Massachusetts Department of Conservation and Recreation (DCR) ACEC Program

(The DCR's letter included the following description of the Cedar Swamp Area of Critical Environmental Concern (ACEC): The Cedar Swamp ACEC was the first ACEC designated in Massachusetts. The approximately 1650 acres are primarily vegetated wetlands, providing critical flood water storage capacity for the Sudbury River basin. The area is the headwaters of the Sudbury River and overlays the medium- and high-yield aquifers that supply two public wells for Westborough, as well as public drinking water reservoirs downstream in Framingham, maintained by the Department of Conservation and Recreation (DCR). Cedar Swamp provides a large and important wildlife habitat in an increasingly urbanized area. State-listed rare species occur in the area, as well as the uncommon Atlantic White Cedar swamp for which the area is named. Located between the urban centers of Framingham and Worcester, the Cedar Swamp is also an important public recreation resource. Sudbury Valley Trustees and DCR own lands that are used for hiking, canoeing, and nature study. Farther downstream, past the DCR reservoirs, the Sudbury River forms the core of the Great Meadows National Wildlife Refuge.)

Comment: We are writing to request that the Department of Environmental Protection (DEP) include all of the surface waters located wholly or partially in the Cedar Swamp Area of Critical Environmental Concern (ACEC) on the Final Year 2006 Integrated List of Waters. Currently, only Whitehall Brook appears on the list. The other surface waters in the Cedar Swamp ACEC are:

Cedar Swamp Pond (Westborough)
Denny Brook (Westborough)
Jackstraw Brook (Westborough)
Rutters Brook (Westborough)
Piccadilly Brook (Westborough & Hopkinton)

It is important for DEP to report on the condition of these waters because they are the lifeblood of the Cedar Swamp. Within the boundaries of the ACEC, they are also classified as Outstanding Resource Waters (ORWs). In order for DEP, municipalities and other parties to protect these exceptional waters, the waters must have a visible place within this consequential regulatory document.

Response: The Integrated List does not provide a complete inventory of all of the surface waters in the Commonwealth, nor is it intended to. This is because waters that have never been assessed by the MassDEP do not appear anywhere on the list. Waters that do not appear in any category of the list are, by default, Category 3 waters, but resources are unavailable to input the entire inventory of surface waters into the database where assessments are stored. Instead, waters are usually only added to the list as new watershed assessments are completed. Nonetheless, as the result of this comment the MassDEP will add these water bodies to Category 3 of the final version of the 2006 Integrated List of Waters.

6) Charles River Watershed Association

("The Charles River Watershed Association (CRWA) is pleased to have an opportunity to review MA DEP's Proposed Year 2006 Integrated List of Waters for the Charles River watershed. CRWA offers numerous comments to the list based on our science work, United States Geological Survey (USGS) research and other studies conducted over the past seven years, which provides the most recent characterization of water quality and flow conditions in the Charles River watershed.

Currently, CRWA is conducting the Upper Charles River Watershed TMDL Project to estimate the maximum amount of total phosphorus by pollution source that can be introduced into the Charles while the river still attains its designed uses. Key components of this project were water quality and flow monitoring conducted from 2002 to 2005 in the upper Charles River and nine tributaries. The data obtained from this project serve as the basis for many of CRWA's comments on the 2006 integrated list of waters (CRWA, 2004 and CRWA, 2006). In addition, CRWA's low flow and habitat assessment work that included measurements of river and tributary levels from 2001 to 2002 provide evidence of the low flow problem in the upper watershed (CRWA, 2002). Two USGS studies in the past five years also present valuable information for listing waters impaired by specific pollutants. In 1999-2000, USGS conducted a comprehensive assessment of streamflow, water quality and contaminant loads in the lower Charles River watershed (USGS, 2002). In the upper watershed, USGS conducted a project to determine the best strategies for balancing water use and minimum necessary streamflow using a groundwater model to estimate baseflows under various conditions at sites in the upper Charles and four tributaries (USGS, 2003). Finally, two lake assessment projects conducted in the upper watershed have useful data for determining the status of these waterbodies in meeting its designated uses (ESS, 2001 and Metcalf & Eddy, 2001). Enclosed is a packet of supporting material including a reference list of the reports mentioned above, descriptions or map of monitoring sites, and tables of water quality and streamflow monitoring results.")

CRWA Reference List for Proposed MA Year 2006 Integrated List of Waters

Breault, R.F, Sorenson, J.R., and Weiskel, P.K., 2002. Streamflow, Water Quality and Contaminant Loads in the Lower Charles River Watershed, Massachusetts, 1999-2000. United State Geological Survey, WRIR 02-4137.

Charles River Watershed Association, 2002. Low Flows and Habitat Assessment of the Upper Charles River Watershed. Newton, MA.

Charles River Watershed Association, 2004. Upper Charles River Watershed TMDL Project:

Phase I Final Report. Waltham, MA.

Charles River Watershed Association, 2006. Draft Upper Charles River Watershed TMDL Project: Phase II Final Report and Phase III Data Report. Weston, MA.

Eggleston, J.R., 2003. Evaluation of Strategies for Balancing Water Use and Streamflow Reductions in the Upper Charles River Basin, Eastern Massachusetts. United States Geological Survey, WRIR 03-4330.

Environmental Science Services, Inc., 2001. Lake Water Quality Study 2000, Town of Wrentham, MA. Prepared for Town of Wrentham.

Metcalf and Eddy, 2001. Final Environmental Impact Report for Utilization of Louisa Lake Overflow for Public Water Supply (EOEA No. 11394). Prepared for Milford Water Company.

Comment: During the TMDL dry-weather and wet-weather monitoring events, several tributary and mainstem sites had elevated total phosphorus concentrations that exceeded the project action limit of 0.02375 mg/L and were also almost equal to or greater than the eutrophic limit 0.10 mg/L. Therefore, CRWA recommends that the following tributaries be added to the Category 5 Waters list for nutrients Chicken Brook in Medway, Hopping Brook in Bellingham, and Mill River in Norfolk. In addition, nutrients should be added as a pollutant needing a TMDL to several waterbodies currently listed in Category 5. These waters include Bogastow Brook (MA72-16_2006), Fuller Brook (MA72-18_2006), Populatic Pond (MA72096_2006), and Stop River (MA72-09_2006 and MA72-10_2006). Stop River has three WWTP outfalls, which are known sources of phosphorus to the river.

Response: The "project action limit" and "eutrophic limit" cited in this comment are not enforceable water quality standards so it is inappropriate to compare them with monitoring data to make decisions pertaining to use-support. In fact, there are no numerical standards for nutrients in the Massachusetts Surface Water Quality Standards and the MassDEP does not usually place waters on the 303(d) List solely on the basis of nutrient concentration data. On a case-by-case basis the MassDEP will add waters to the 303(d) List based on clear evidence of eutrophic conditions, such as wide ranges in dissolved oxygen concentration, elevated chlorophyll values or biological surveys (in combination with nutrient concentrations) that reveal algae or plant "bloom" conditions. However, nutrient concentrations above normal background levels do not, in and of themselves, constitute use-impairment. In response to this comment, the MassDEP reviewed existing and readily available data and information contained in the references cited by the CRWA above, as well as MassDEP's own water quality and biological data obtained during its 2002 ambient monitoring program. Based on this review, "nutrients" will be added as a stressor to the two Stop River segments (i.e., MA72-09_2006 and MA72-10_2006). The MassDEP did not find compelling evidence for listing the remaining waters cited in this comment as impaired by nutrients.

Comment: The health conditions of three hydraulically connected lakes, Lake Pearl, Lake Archer and Mirror Lake, in the Towns of Wrentham and Norfolk were assessed in 2000 in response to growing concern about the water quality of these lakes (*ESS, 2001*). All three lakes had elevated levels of nitrogen and phosphorus. Yet, the three lakes are assigned three different categories in the 2006 Integrated List of Waters: 1) Lake Archer (MA72002_2006) is listed as a Category 2 water; 2) Lake Pearl (MA72092_2006) is designated a Category 3 water; and 3) Mirror Lake (MA72078_2006) is considered a Category 5 water. CRWA recommends that MA DEP review the assessment report and reconsider the listing of these three lakes.

Response: MassDEP uses data from external sources to make assessments if those data are of known and documented quality and provi ded that samples were collected under the appropriate conditions for comparison with water quality standards. Data reports and supplemental information must be submitted in accordance with guidelines established by MassDEP's Division of Watershed Management (DWM) Office in Worcester. At a minimum, the MassDEP will accept and review data and information pertaining to the quality of Massachusetts' waters if the following are provided: 1) an appropriate Quality Assurance

Project Plan including a laboratory Quality Assurance /Quality Control (QA/QC) plan, 2) use of a state certified lab (certified for the applicable analyses), 3) a description of data management, QA/QC and data validation procedures, and 4) the information is documented in a citable report that includes QA/QC analyses.

MassDEP has examined the report entitled *Lake Water Quality Study 2000, Town of Wrentham, MA.* published in 2001 by Environmental Science Services, Inc. (ESS) and found it quite limited in its usefulness for assessing and listing the three lakes in question. A QAPP for the lake study was not furnished and the quality assurance data required to confirm the validity of the data are not included in the report. Nonetheless, the information presented in the ESS report will be used during the next assessment to corroborate data and information from other documented sources and to highlight potential issues and problems in need of further evaluation in the future. This is accomplished by labeling a segment with an "alert status" during the assessment process. However, an "alert status" does not imply a confirmed impairment and, as such, is not reflected in the Integrated List of Waters. The following specific decisions pertaining to the 2006 Integrated List were made following a preliminary review of the ESS report.

As noted by the CRWA, Mirror Lake already appears in Category 5 as impaired by "nutrients", "noxious aquatic plants", "turbidity", and "exotic species". High coliform bacteria levels in storm drains reported by ESS may result in an "alert status" for the recreational uses of this waterbody but this will not affect its listing status. The aquatic life use of Lake Pearl has been found to be impaired by the presence of two non-native plants, *Myriophyllum spicatum* and *M. heterophyllum*. Therefore, this lake will be moved from Category 3 to 4c ("impaired by a non-pollutant not requiring a TMDL") in the 2006 Integrated List. Low hypolimnetic dissolved oxygen, supersaturation in the epilimnion and high fecal coliform levels, all reported by ESS, may lead to an "alert status" in the next assessment of Lake Pearl but this will not be reflected in the Integrated List. Finally, ESS reported low hypolimnetic dissolved oxygen, reduced transparency and elevated fecal coliform bacteria levels in storm drains at Lake Archer. This lake will be labeled with an "alert status" during the next assessment but, once again, this will not affect its listing status.

Comment: CRWA recommends that Godfrey Brook in Milford and Chicken Brook in Medway be placed in the Category 5 Waters list for pathogens and that pathogens be included in the pollutant list for Mine Brook (MA72-14_2006). During the four TMDL monitoring events, these tributaries had consistently elevated levels of bacteria that exceeded the Massachusetts Class B (suitable for primary and secondary contact recreation) water quality standard of 200 cfu/100mL and also on some occasions exceeded the MA Class C (suitable for secondary contact recreation only) standard of 1,000 cfu/100mL.

Response: A description of Massachusetts' Assessment and Listing Methodology can be found in the Integrated List document as well as in the introduction to each individual watershed assessment report. This methodology recommends having a minimum of five bacteria samples per site over the course of a *single* recreational season (i.e., April – October) when assessing the primary contact recreational use. MassDEP has reviewed the CRWA TMDL project reports and determined that the frequency of sampling does not meet these requirements. For example, Chicken and Mine brooks were sampled in August and October 2002, October 2004, and August 2005. This represents four bacteria counts over a four-year time interval. Godfrey Brook was sampled even less frequently. For this reason, these streams will not be listed as impaired by pathogens.

Comment: Located in the Town of Milford, Louisa Lake is currently listed as a Category 3 water with "no uses assessed." However, a lake water quality assessment study conducted by the Milford Water Company, as part of a utilization project for the lake as a public water supply, indicated that the lake had elevated levels of bacteria on numerous occasions between 1998 and 2001 (*Metcalf & Eddy, 2001*). CRWA believes that Louisa Lake based on these water quality results should be assigned as a Category 5 water for pathogen pollution instead of a Category 3 water.

Response: The MassDEP has established criteria for receiving and evaluating scientific data and information from outside sources, such as other state and federal agencies, universities, consultants and citizen monitoring groups. MassDEP will accept and review data and information pertaining to the quality

of Massachusetts' waters if the following are provided: 1) an appropriate Quality Assurance Project Plan including a laboratory Quality Assurance/Quality Control (QA/QC) plan, 2) use of a state certified lab (certified for the applicable analyses), 3) a description of data validation and management QA/QC, and 4) all of the information is documented in a citable report that includes the QA/QC analyses. Data that fail to meet MassDEP's minimum qualifications are not used to make assessments. MassDEP reviewed the Louisa Lake water quality study cited in this comment and determined that it does not meet the requirements described above for submitting data and information to be used for making assessments in accordance with sections 305(b) and 303(d) of the CWA. Therefore, MassDEP was unable to complete an assessment of Louisa Lake at this time.

Comment: Long-term streamflow monitoring at USGS flow monitoring gauges and CRWA visual observations have documented low flow conditions in the upper reaches of the Charles River especially during the dry summer months. The proposed list omits flow alteration as a pollutant for the two uppermost mainstem reaches; from the river's source, Echo Lake, Hopkinton to Dilla Street, Milford (MA72-01_2006) and from Dilla Street to Milford WWTP, Hopedale (MA72-02_2006). CRWA's Low Flow and Habitat Assessment water elevation data collected immediately downstream of Echo Lake in the fall of 2001 shows that the river experienced extremely low flow conditions. Several reference or measurement points at this site (5, 6, and 7) were completely dry. In addition, USGS baseflow estimates in the upper Charles River (Site CR1) under average climatic conditions and either under average water-use conditions or under no water-supply or wastewater pumping were below the US Fish and Wildlife's aquatic baseflow standard of 0.5 cfm, which is protective of a healthy freshwater ecosystems. CRWA urges MA DEP to add flow alteration to the pollutant list for these two upper reaches.

Response: While there are no enforceable flow standards in effect for Massachusetts' rivers, and the USFWS baseflow alluded to above is only a recommended guideline, the MassDEP did encounter low-flow conditions in the upper reach of the Charles River, similar to those described by the CRWA, during its 2002 monitoring program. The MassDEP did not, however, find the evidence strong enough to confirm that the next segment downstream is impaired by flow alterations. In any case, the CWA distinguishes between "pollutants", such as nutrients, metals and pathogens, that all require TMDLs and "pollution", such as flow and habitat alterations or non-native species infestations, which do not require TMDLs. Thus, waters are not placed on the 303(d) List (i.e. Category 5) for "flow alterations." Rather, waters impaired by low-flow conditions are listed in Category 4c ("Impaired, not requiring a TMDL") and their restoration is accomplished through measures other than the development and implementation of TMDLs. Since the uppermost segment of the Charles River (MA72-01) already appears on the 303(d) List due to pollutant-related impairments, "flow alterations" will be added in parentheses to indicate impairment from a non-pollutant.

Comment: CRWA also recommends that the list include two tributaries for flow alteration, Hopping Brook, Bellingham and Trout Brook, Dover. The hydrographs for Trout Brook and Hopping Brook from August 19-24, 2005 indicated that streamflow were extremely low, equal to or less than 0.1 cfsm with Trout Brook being almost completely dry. USGS estimated monthly baseflow for Hopping Brook (Sites HB1 and HB2) and from July to September baseflows under average conditions are between 0.14-0.15 cfsm.

Response: Again, the CWA distinguishes between "pollutants", such as nutrients, metals and pathogens, that all require TMDLs and "pollution", such as flow and habitat alterations or non-native species infestations, which do not require TMDLs. Thus, waters are not placed on the 303(d) List (i.e. Category 5) for "flow alterations." Rather, confirmed impairments caused by low flow conditions are listed in Category 4c ("Impaired, not requiring a TMDL") and their restoration is accomplished through measures other than the development and implementation of TMDLs. Whereas low-flow conditions have been documented in Hopping and Trout brooks, especially during times of drought, the extent to which low-flow conditions contribute to the impairment of their designated uses, such as the support of aquatic life, remains uncertain at this time. In the study cited above the USGS confirmed that several streams in the Upper Charles River Basin, including Hopping Brook, naturally exhibit very low base flow. Therefore, "although human water use contributes to the problem of low summertime streamflows, human water use is not the only, or even the primary, cause of low flows in the basin" (Eggleston 2003). Due to the lack of enforceable minimum flow standards, the unconfirmed extent to which low flows are actually contributing

to use-impairment, and the uncertainty that exists with respect to natural versus anthropogenic contributions to low-flow conditions in Hopping and Trout brooks, the stressor "flow alterations" will not be added to these streams at this time. The MassDEP does recommend, however, that continued research efforts be aimed at developing water and wastewater management alternatives for the Upper Charles Basin that will meet future demands for public water supply while minimizing deleterious impacts to surface waters.

Comment: Two tributaries located in the lower Charles River watershed, Fanueil Brook and Stony Brook, should be listed as Category 5 waters impaired by various pollutants including pathogens, nutrients, metals, organic enrichment/low dissolved oxygen, turbidity, and taste, odor and color. These tributaries had extremely elevated pollutant concentrations on numerous occasions during the USGS dry and wet weather monitoring events.

Response: These two brooks flow almost entirely underground from their headwaters to the point where they empty into the Charles Basin, thus severely limiting any beneficial uses typically attributable to surface waters. For this reason only the daylighted portion of Stony Brook will be added to the MassDEP assessment database. There are, however, no available data with which to make an assessment of this segment, so it will appear in Category 3. If applicable, both of these underground streams may be treated as point sources of pollutants when managing the water quality of the main stem Charles River.

Comment: Laundry Brook, listed as a Category 5 water, was also studied as part of USGS' study in the lower watershed. Monitoring results from this brook warrant that metals also be included as a pollutant of concern.

Response: It is important to note that for the study cited here, the USGS performed whole-water trace metals analyses, in part, because their research was focused on total trace-metal loading patterns. The USGS is careful to explain, however, that there are "no universal and robust methods to relate whole-water trace metal concentrations to ecosystem effects". Instead, the EPA recommends the use of dissolved trace-metal concentrations as a more reliable predictor of bioavailability or toxicity of water-column metals and, for this reason, the Massachusetts Surface Water Quality Standards express water quality criteria for metals in terms of dissolved, and not total recoverable metals. "Consequently", the USGS report goes on to say, "exceedences of trace-metal standards are not discussed herein". In summary, the metals data reported in this particular USGS study are not appropriate for making use assessments and listing decisions for reporting under the Clean Water Act.

Comment: Compared to many other waterbodies in the State, there is a significant amount of research on the Charles River watershed, including CRWA, USGS, and other information provided here. MA DEP should closely review these studies to ensure that the *Proposed MA 2006 Integrated List of Waters* accurately and completely reflects the current status of the Charles River mainstem and tributary segments relative to their designated uses and water quality standards.

Response: MassDEP follows a rotating watershed monitoring and assessment schedule that does not allow for new assessments to be completed for every watershed in each listing cycle. Consequently, the *2006 Proposed Integrated List of Waters* did not include a new assessment of the Charles Watershed, and the listing status of segments in this river basin remained essentially unchanged from the 2004 listing cycle. At the time of the preparation of this public response document, however, MassDEP was actively applying its assessment methodology to segments in the Charles Watershed. Water quality and biological data from MassDEP monitoring surveys in 2002, as well as data and information from numerous other sources were assembled and compiled for use in completing the Charles assessment. These sources included, but were not limited to, the references cited by the CRWA at the beginning of their comment letter. It is MassDEP's goal to report final listing decisions based on the new Charles assessment in the 2008 Integrated List of Waters along with all of the new listing decisions for the other watersheds in the same phase of the rotating watershed schedule. However, MassDEP has reviewed the comments and supporting documentation submitted by the CRWA during the public comment period and has made some adjustments to the 2006 List consistent with the above responses to CRWA's individual comments.

7) Connecticut River Watershed Council

("CRWC is a non-profit organization that works to protect the watershed from source to sea. As stewards of this heritage, we celebrate our four-state treasure and collaborate, educate, organize, restore, and intervene to preserve the health of the whole for generations to come. In particular, we are looking forward to the day when the entire length of the Connecticut River will be fishable and swimmable.")

Comment: Our letter consists of general comments, listed below, followed by a table (Appendix A) that itemizes in detail our concerns raised by the Proposed List with respect to the Connecticut River watershed and its sub-watersheds. CRWC's comments on these particular changes are hereby incorporated into this letter.

Response: Responses to the general comments are presented after each individual comment. The table prepared by the CRWC, along with responses to individual comments contained therein, can be found in the appendix to this document.

Comment: The Proposed List is contrary to the antidegradation policy of the Clean Water Act and the Proposed List has not been opened to meaningful public review. The broadest objective of the Clean Water Act ("CWA") is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." 33 U.S.C. § 1251(a). But the CWA sets a more particular water quality goal for all of the nation's waters as well: that they be "fishable and swimmable." *See* id. at § 1251(a)(2); *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology*, 511 U.S. 698, 704-05 (1994). To this end, the CWA and U.S. Environmental Protection Agency ("EPA") regulations require states to adopt and enforce an "antidegradation policy." 33 U.S.C. § 1213(d)(4)(B); 40 C.F.R. § 131.12 (2006). This antidegradation requirement is fundamental and actually predates the modern CWA, having been enacted first in the Water Quality Act of 1965, Pub. L. No. 89-234, 79 Stat. 903 (1965). The foundation of any state's antidegradation program is the establishment and implementation of its waters classification framework. Finally, the public transparency of that foundational work is vital to its long-term success and is also specifically required by the CWA. 33 U.S.C. § 1251(e). Unfortunately, the Massachusetts Department of Environmental Protection ("MA DEP") has thus far failed to open its proposed classifications to meaningful public review and the CRWC objects to the manner in which the Proposed List has been put out for "notice and comment."

The antidegradation policy requirement states simply that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 C.F.R. § 131.12(a)(1) (2006). Whatever a state does in its water quality program, it must at all times be consistent with this element of the antidegradation policy. In our opinion, MA DEP has failed to meet this obligation in the following ways.

We have noticed that there are many water bodies listed in Category 2 that have had some assessed uses dropped, some water bodies that have been moved from category 2 to category 3 (unassessed), and others have been moved from category 2 to category 5 (at which point no assessed uses are publicly visible). Federal law clearly requires that "states may remove a designated use which is not an existing use . . . or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible," but only if that removal fits with one of six specified exceptions to the antidegradation policy. Id. at § 131.10(g) . The definition of "existing use" is "those uses actually attained in the water body . . . whether or not they are included in the water quality standards." Id. at § 131.3(e). It seems virtually impossible that MA DEP has actually assessed any of the waters being downlisted as inventoried in Appendix A to verify which "existing uses" they do or do not support within the current designation categories. For, if MA DEP has done that characterization work, it would seem to be precisely the sort of "existing and readily available water quality-related data and information" under 40 C.F.R. § 130.7(b)(5) that MA DEP has said it lacks and which necessitates its long-term cycle approach to monitoring and assessment.

If MA DEP believes that some of the waters being downlisted have existing uses that need not be inventoried and/or sustained, it is mistaken. "Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located." 40 C.F.R. § 131.12(a)(2).

The form of the Proposed List and the lack of transparency suggest MA DEP cannot meet its burden of proof under § 131.12(a)(2). At the very least, if MA DEP *can* meet that proof burden, it has not submitted that information to the public for review/comment. For, unlike other states in the Connecticut River watershed, MA DEP has not offered any explanation about list changes in the Proposed Integrated List for 2004 and 2006.

Since the enactment of the Water Quality Act amendments of 1987, EPA's implementation of this requirement has taken the form of various regulations and guidance ensuring that states' lists and the "priority rankings" of their waters are appropriately prioritized for the State's attention and commitment of admittedly scarce administrative resources. But MA DEP's approach to its reporting and ranking duties, most recently revealed in the Proposed List, is baffling. It is, quite simply, impossible to use the continuous planning process as a means of prioritizing the use of resources available for the restoration and protection of water quality when the benchmark (in this case, the 2004 list) has yet to be fixed.

MA DEP may not simply assert that a use is not supported, even if its data are incomplete, outdated, or otherwise imperfect. "Prior to adding or removing any use, or establishing sub-categories of a use, the State shall provide notice and an opportunity for a public hearing under [40 C.F.R] § 131.20(b)." 40 C.F.R. § 131.10(e). To our knowledge, MA DEP has noticed no such hearing.

Secondly, as mentioned, EPA regulations require that "[e]ach State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list. . . ." 40 C.F.R. § 130.7(b)(5). The bulk of MA DEP's proposed changes based on the quality of available data seem to assert that, where old data are the only data available, DEP ought to remove designated uses. If the planning process is meant to be "iterative" in the sense of incremental and step-based, it is hard to understand what steps MA DEP is proposing to take *toward* the CWA's articulated goals. DEP's two outstanding proposed lists (2004, 2006) both underscore the importance of actually having a "final" list by which to compare the proposed changes, as CRWC's attached comparison chart shows. *See* Appendix A. Without a baseline of comparison, interested citizens have no way of assessing the relevance of the state's proposed action under prevailing law because it is only the relative water quality of a designated segment and its designated uses on which public input is ever solicited.

Response: The introductory narrative to the *Massachusetts Year 2006 Integrated List of Waters* describes in some detail pertinent sections of the Clean Water Act (CWA) and how they apply to the Massachusetts water quality management program. A description is provided of the surface water quality standards, the assessment and listing process and associated reporting requirements, the TMDL program, and several regulatory and non-regulatory programs aimed at improving water quality in Massachusetts. Despite the availability in the document of this extensive background information, the above comment reveals a number of misunderstandings pertaining to sections 305(b) and 303(d) of the CWA and the purpose of preparing the Integrated List of Waters. In fact, CRWC's comment letter prompted the EPA Region 1 to send a letter (September 5, 2006) from Robert Varney, Regional Administrator to Andrea Donlon of the CRWC that attempted to clarify some of the misconceptions implied by CRWC's letter. Some of these will be addressed, albeit briefly, below. Nonetheless, the CRWC is encouraged to reread the introductory material to the proposed 2006 list document and contact the MassDEP with specific questions that remain unanswered.

It is apparent, from the language in the above comment, that the CRWC has incorrectly concluded that beneficial use designations were being removed from waterbodies by the integrated listing process. This is simply not the case, nor do the assessment and listing requirements of the CWA have anything to do

with the process of assigning beneficial uses to waterbodies. Rather, it is the Surface Water Quality Standards that classify waters, assign beneficial uses to those waters and define the criteria that must be met to support those uses. Furthermore, states cannot assign waters to lower use classifications or remove uses from waters without performing use attainability analyses (UAAs) that are reviewed and approved by the EPA. The promulgation of water quality standards and the completion of UAAs both involve extensive public-participation programs, and both are completely separate from the assessment and listing programs of sections 305(b) and 303(d).

Another misconception that is apparent from this and later comments (see, below) submitted by the CRWC is that the Integrated List is the document that provides the rationale for placing waters in the various categories of the list. Again, this is not the case. The Integrated List simply provides a summary of the status of water bodies in relation to their assigned classification. The basis for listing individual waterbodies is documented in individual watershed assessment reports that are completed on a rotating watershed schedule and posted on the MassDEP's website at http://mass.gov/dep/water/resources/wqassess.htm. As explained in the 2006 Integrated List document, these reports present for each segment or "assessment unit" (AU) a summary of all existing and readily available data and information pertaining to that AU and, if sufficient information exists, a determination with regard to whether or not individual designated uses are supported. The MassDEP views the preparation of watershed assessment reports as the ideal way to summarize what is known about the status of the water resources in each watershed and to make the assessment and listing process as transparent as possible to the EPA and the general public. As such, the watershed reports are also considered a fundamental element of Massachusetts' submittal to the EPA under Section 305(b) of the CWA. A complete list of the MassDEP watershed assessment reports embodied in the 2006 categorization of waters can be found in the bibliography of the 2006 listing.

("The Proposed List is contrary to EPA's 2006 Integrated Report Guidance ["IRG"]. The 2006 IRG [online at http://www.epa.gov/owow/tmdl/2006IRG/] included the following recommendations and requirements, followed by our comments".)

Comment: *"As described in this guidance, all waters in the state that are 'waters of the United States' (as defined in 40 CFR 122.2) should be assessed and reported on. These types of water may include, but are not limited to, lakes, rivers, estuaries, coastal shorelines, wetlands, oceans and ground water."* The Proposed List does not come close to reporting on all waters in Massachusetts that are waters of the United States. The rationale for the water bodies that are listed in the tables is not given, and there are many that are missing from even Category 3.

Response: As stated elsewhere, the rationale for listing waters can be found in the individual watershed assessment reports published by the MassDEP. It is certainly true that Massachusetts, like any other state, does not possess adequate resources to monitor and assess every waterbody in the Commonwealth every two years. In fact, one appropriate technique for assessing all waters is to employ a probabilistic sampling design that entails randomly selecting a small number of monitoring sites and drawing state-wide inferences from the results. While this method allows for a determination of what *percentage* of all waters are meeting standards, it does not identify the specific waterbodies – other than the few actually sampled – that are included within that percentage. The MassDEP does not believe that such an approach is meaningful because it provides limited information on a few waterbodies, but does not provide site-specific information or allow for any judgments as to potential sources. Therefore, the MassDEP relies on a deterministic sampling design implemented on the watershed schedule discussed in the integrated list document.

It is also true that the integrated list is not a complete inventory of all of the surface waters in the Commonwealth, nor is it intended to be. Waterbodies in Massachusetts that have never been assessed by the MassDEP do not appear anywhere on the list because resources are unavailable to input the entire inventory of surface waters into the database where assessments are stored. New waters are only added to the list as assessments are completed for those waters for the first time. Nonetheless, waters that do not appear in any category of the list are, by definition, Category 3 ("unassessed") waters.

Comment: Table 2-1 of the IRG says that by April 1 of all even numbered years, states must submit to EPA the following information:

- *"A description of the data and information used to identify waters, including a description of the existing and readily available data and information used.*" The data used for MA DEP's analysis is only given generically, aside from the references at the end of the text part of the document. If the reference list is an accurate list of data sources for the 2006 list, then it means DEP has not used much data from the USGS or other state agencies, or any data from watershed organizations, municipalities, or universities. Moreover, the water quality assessments for all water bodies are least 5 years old (the most recent sampling year is 2001). And, a column that used to contain the assessment date was eliminated in 2004, making it even more of a mystery what data DEP has included and what data it hasn't included.
- "*A rationale for any decision to not use any existing and readily available data and information*." No rationale has been included.
- "*An identification and classification according to eutrophic condition of all publicly owned lakes in such state.*" There is no analysis of the eutrophic condition in this Proposed List.
- "*An assessment of status and trends of significant publicly owned lakes including extent of point source and nonpoint source impacts due to toxics, conventional pollutants, and acidification*." We could not find any assessment of trends of publicly owned lakes.

Response: The individual watershed assessment reports provide extensive documentation of all sources of data and information used to make assessments and subsequent listing decisions. Lake assessments are included in these reports to the extent that, like other waters, data and information of known and documented quality are available for them. It is regrettable that, due to the recent loss of data management and assessment staff, the MassDEP is behind in its schedule for completing watershed assessments. However, it is not true that "water quality assessments for all water bodies are at least five years old". Assessments are completed on a sequential basis and they often use data obtained by outside entities (i.e., other state and federal agencies, citizen monitoring groups, etc.) that are more recent than the last MassDEP surveys. For example, MassDEP published the *Millers River Watershed 2000 Water Quality Assessment Report* in March, 2004. While the date in the title of the report indicates the year of the MassDEP survey from which data were available, information submitted by other parties during the years 2001 – 2003 were also utilized when making the assessments. Thus, the integrated list from any given listing cycle represents a mixture of newer and older assessments depending upon the watershed in question. Nonetheless, MassDEP is concerned about the delay in completing the assessments is constantly exploring alternatives for getting caught up.

Comment: *"EPA encourages states and territories to provide assessment information for every segment's designated use(s). Each segment's designated use should be assessed and reported to have one of the following conditions: · Fully Supporting,· Not Supporting,· Insufficient or no data and information - Segments with insufficient data and information to support an attainment determination for a standard,· Not Assessed."* MA DEP has not done this. Category 2 waters are the only waters for which any assessed uses information is given. Compare this to NH DES's "Final 2004 List of Attainment Status for all Uses and All Waters," a 1058-page document for rivers alone.

Response: The individual watershed assessment reports contain all of the documentation called for by the EPA guidance quoted in this comment. These reports include segment-by-segment descriptions of all of the available data and information that were reviewed when making the assessments. Each designated use within a given segment is individually assessed as ***support*** or ***not support***. When too little current data/information exists, or no reliable data are available, the use is ***not assessed***. Where possible, confirmed and/or suspected causes and sources of the impairments are also reported.

Comment: *"EPA requests the following information be included to document the attainment decision for each assessed segment designated use:*

- *"Assessment date (e.g., December 20, 2005) - This date documents when the jurisdiction completed the technical analysis of data and made its decision on the segment's designated use attainment status. A common way to store a full Y2K-compliant date is in the character format*

YYYYMMDD (e.g., 20031220 for December 20, 2005)." MA DEP has not done this, and in 2004, even eliminated a column that used to contain assessment date.

- "*Assessment type - Jurisdictions should list all types of data they used to make each use attainment decision (e.g., physical/chemical monitoring, toxicity testing (e.g., bioassays), benthic macroinvertebrate surveys, etc.).*" MA DEP has not done this.
- "*Assessment confidence - Assessment confidence levels, which range from 1 (least rigorous) to 4 (most rigorous) should be reported for each assessment type. Jurisdictions should provide definitions of their assessment confidence levels in their assessment methodologies.*" MADEP has not done this.

Response: Again, the individual watershed assessment reports contain all of the documentation pertaining to the assessments and listing decisions called for by the EPA guidance. This includes the types of data used. In fact, individual technical memoranda reporting on water quality data, biological information (e.g., macroinvertebrate, algae and fish surveys) and other kinds of data can be found in the appendices to the assessment reports. MassDEP does not use a scoring system to report the level of confidence in the assessment. Rather, assessments are only completed if relevant data, regardless of the source, are of known and documented quality. Data that fail to meet MassDEP's minimum qualifications are simply not used to make assessments. They may, however, be used to corroborate data and information from other validated sources and to highlight potential issues and problems in need of further evaluation in the future. This is accomplished by labeling a segment with an "alert status" in the assessment report. However, an "alert status" does not imply a confirmed impairment and does not affect the listing status of a waterbody.

Comment: "*Jurisdictions should report all of the pollutants or other types of pollution for impaired or threatened segments. The list of acceptable pollutants and other types of pollution is available on http://www.epa.gov/waters/adb. The list contains a complete set of chemical characteristics and nonpollutant causes of impairment. Jurisdictions should link the specific pollutant to the designated use or designated uses that are not being attained.*" DEP has not followed this list at all. Many impairments that DEP lists in the Connecticut River watershed, such as "pathogens," "priority organics," and "metals" are not on EPA's list of impairments. Instead of pathogens, MA DEP should list "Bacteria, E. coli." Instead of "priority organics," the specific pollutant should be given. The Category 5 list does not explain which designated uses are impaired. For example, in the Connecticut River, most segments are impaired due to, in part, by "priority organics." We have come to know that this means that there are PCBs in fish. But this is not explained anywhere in the document.

Response: The section entitled "Assessment Documentation" on page 21 of the proposed 2006 Integrated List discusses in detail the specific issue raised in this comment. Excerpts of this discussion are presented here for completeness. The EPA encourages states to store assessments in an electronic database designed for that purpose. For older listing cycles up to and including 2002, MassDEP stored assessments in EPA's Water Body System (WBS). For each segment in the WBS a use-support determination was made and, whenever possible, causes and sources of impairment were specified. In doing so, MassDEP analysts could select from a list of approximately 30 pre-existing "causes" available from the WBS program. The EPA now recommends the use of a newer, improved "Assessment Database" (ADB). One of the many enhancements offered by the ADB is the availability of over 400 different "impairments" that can be used to specify the causes contributing to the non-attainment of designated uses. This is the "list of pollutants and other types of pollution" to which the CRWC refers in the above comment. MassDEP hopes to fully implement the new ADB in time for the 2008 listing cycle. In the meantime, assessments completed for the 2004 and 2006 listing cycles are stored in an interim database developed by the MassDEP. To initiate a gradual transition to the use of the ADB, MassDEP began utilizing the ADB "pollutant and pollution" codes with the publication of the 2000 watershed assessment reports. However, the Integrated List continues to use the old WBS "causes" for consistency until the ADB is fully implemented. This allows for the direct comparison of the Integrated List from one listing cycle to the next. A list of the WBS "causes" appearing in the 2006 Integrated List is presented in Appendix 1 of that report along with clarifying information for some of the more generic terms.

Comment: *"Jurisdictions should also identify the probable sources contributing to an impairment. The sources should be documented using the list provided on http://www.epa.gov/waters/adb. These sources need to be linked to the appropriate pollutant causing the impairment."* No sources have been provided in the Proposed List. In the state of Connecticut's list, in comparison, CT DEP lists the Connecticut River as having fish consumption as an impaired designated use, with the cause or potential cause being PCBs. They even explain that primary contact recreation is impaired due to "indicator bacteria" with the potential source being "CSOs, unknown sources, and sources outside state jurisdiction." MA DEP's list only says that the Connecticut River is impaired due to "pathogens" with no explanation where it comes from.

Response: The individual watershed assessment reports contain the documentation called for by the EPA guidance quoted in this comment. In these reports, confirmed and/or suspected causes and sources of impairments are reported using the new cause and source codes recommended by the EPA. As explained in the response to the previous comment, however, the Integrated List will continue to display the old Water Body System causes and sources during the transition to the new Assessment Database (ADB).

Comment: *"Data elements to be reported using either EPA's Assessment Database or the relational database structure outlined in Section D, Minimal Database Elements to Support Electronic Submission."* Many required data elements are missing.

Response: The section entitled "Assessment Documentation" on page 21 of the proposed 2006 Integrated List discusses the status of Massachusetts' assessment data management system, the transition that is currently underway from the use of the Water Body System (WBS) to the implementation of the Assessment Database (ADB), and the reporting implications of this transition. Nevertheless, MassDEP completed a successful electronic submittal of the 2004 Integrated List to the EPA on December 20, 2006 and will do likewise for the 2006 Integrated List following the EPA approval process.

Comment: The TMDLs that have thus far been written for waterbodies in the Connecticut River watershed consist of phosphorus TMDL reports for lakes in the Connecticut, Millers, and Chicopee River watersheds. Yet only one water body, Lake Warner, in Hadley was listed as being impaired for nutrients. The lakes covered under these TMDLs were originally listed in Category 5 for impairments like noxious aquatic plants, low dissolved oxygen, and turbidity. For some reason, all water bodies have been covered under a phosphorus TMDL, when MA DEP does not even regularly collect phosphorus data or list water bodies for being impaired for nutrients. Nor has the state adopted nutrient standards. This is an odd approach to a common water quality problem state-wide.

Response: The list was developed based on EPA guidance and can be a bit confusing at times. We will do our best to explain these discrepancies. To begin, until recently EPA guidance required that waterbodies be listed in only one category at a time. MassDEP developed our list based on this guidance and we continue to do it this way today. As a result, some waters were moved to other categories after further evaluation (see below) and some remained in Category 5. By way of example, if a waterbody was impaired solely because of nutrients and a TMDL were completed, it would be moved to Category 4A. However, if that waterbody were impaired for an additional reason not related to nutrients it would remain in Category 5 with a notation indicating that a TMDL for nutrients had been completed.

Most of the lakes you referenced were, in fact, on previous lists. As you note, some were originally listed as being impaired for nutrients, others were listed for noxious aquatic plants, dissolved oxygen, and/or turbidity, while still others were listed solely for noxious aquatic plants. The impairments identified for each waterbody were based on the amount of information available at the time of listing. For instance, in some cases only plant information was available but in other cases additional information such as chemical analysis and/or oxygen levels may have been available. As a result, the listing reflected the amount of information known at that time. In general, especially in cases related to nutrient enrichment, many of these stressors are directly related to each other. Therefore, TMDLs were developed for waterbodies in the Connecticut, Chicopee, and Millers River Watershed where MassDEP believed impairments existed as a result of nutrient enrichment even if the waterbody was not listed for all parameters (including nutrients) on the initial list.

There have also been times when original listings were found not to be related to nutrient enrichment. The introductory sections of both the 2004 and proposed 2006 integrated lists explain that many lakes and ponds that had appeared on earlier 303(d) lists because they were reported to have excessive native macrophyte or rooted plant growth were de-listed in 2002 or 2004 (with EPA approval) when it was determined that the plant growth was not caused by pollutant loadings. For example, a review of the original data and information collected from several lakes revealed extensive naturally-occurring shallow areas that provided ideal habitat for the proliferation of aquatic plants. In this instance several lakes were moved to Category 3 of the list because we felt there was not sufficient information to confirm that nutrient enrichment was a problem even though in some cases a TMDL had already been completed.

Finally, there were also times when additional evaluation indicated that a lake or pond was impaired due to the proliferation of exotic plant species or from a physical constraint but not by a pollutant. In these cases, the waterbody was listed in category 4C. Also, in some a cases like for Lake Warner, the lake was listed in category 4c to bring the attention to the existing problem (such as exotic species) even though a TMDL had already been developed for nutrients. A notation was provided in category 4c to notify the reader of the existence of a TMDL.

The following table provides a list of the lakes and where the waterbody is currently listed. It should be noted that any waterbody that was impaired for any other reason remained in Category 5 of the list.

Lake/Pond	Category Presently Listed
Beaver Flowage Pond, Royalston (MA35005)	3
Bents Pond, Gardner (MA35007)	3
Cowee Pond, Gardner (MA35008)	3
Davenport Pond, Petersham.Athol (MA35015)	3
Greenwood Pond,Westminister (MA35025)	3
Lower Naukeag Lake, Ashburnham (MA35041)	3
Minott Pond, Westminster (MA35046)	3
Minott Pond South, Westminister (MA30545)	3
Reservoir #2, Phillipston/Athol (MA35064)	3
Wallace Pond, Ashburnham (MA35092)	3
Ward Pond, Athol (MA35093)	3
Wrights Reservoir, Gardner/Westminister (MA35104)	3
Lake Ellis, Athol ((MA35023)	4C
Parker Pond, Gardner (MA35056)	4C
South Athol Pond, Athol (MA35078)	4C
Browning Pond, Oakham	4C
Leverett Pond, Leverett	4C
Lake Warner, Hadley	4C

Although it is true that TMDLs had been completed for all of these lakes prior to the time they were de-listed or moved, this does not invalidate those TMDLs. TMDLs can be calculated for any waters irrespective of their listing status. MassDEP considers TMDLs for unimpaired waters as "protective" rather than "restorative" in nature. Nonetheless, in general, it is not Massachusetts' policy to focus limited resources on the development of TMDLs for unimpaired waters and emphasis will continue to be placed on completing TMDLs for waters with confirmed impairments.

Finally, the remainder of the lakes or ponds to which you refer where determined to be impaired by algal blooms or mats or plants, such as water meal or duckweed, that exhibit blooming conditions in response to nutrient inputs. In these cases the waterbodies were retained with the stressor "noxious aquatic plants" on the 303(d) List (i.e., Category 5) and TMDLs were developed. This practice was continued for the 2006 listing cycle.

Comment: The Aquatic Life use assessment is not consistent with fish stocking programs. There are many water bodies that are stocked for Atlantic salmon fry or game fish in the state that are either unassessed, not on the list. How is it that the state can have an entire fish stocking program in water bodies for which the Aquatic Life use is unassessed?

Response: Use assessment and fish stocking are unrelated activities carried out by different agencies with completely different missions and goals. While clean water certainly favors successful fish stocking programs, stocking may also be carried out in lower quality waters simply for seasonal sport fishing. Here there is no expectation that fish will hold over from one year to the next, and there is no intent to establish a viable resident population of the introduced fish species. Therefore, from a fish stocking program point of view, water quality conditions do not have to be suitable for protecting sensitive life-cycle stages at critical times of the year. Furthermore, the Department of Fish and Game does not typically conduct water quality sampling prior to stocking, or at any time for that matter, so it cannot be concluded that waters receiving stocked fish are necessarily supporting aquatic life throughout the year. MassDEP presents its assessment methodology in every integrated list publication as well as in each watershed assessment report. The methodology documents the kinds of data and information that are used, as well as the conditions under which they are applied, to ascertain whether or not a waterbody is supporting the Aquatic Life and other uses. Efforts are made to obtain data and information representing worst-case conditions, such as low-flow and high temperature, to determine whether all stages of aquatic life cycles are protected at the most critical times of the year.

Comment: MA DEP's schedule for addressing water quality impairments is incomplete. Page 7 of the Proposed List text refers readers to a website that lists the current priorities for TMDL development. However, in the lists themselves, the year that each water quality impairment shall be addressed should be included. Other states in New England have included this information in their tables of water body segments. See, for example, Vermont's 303d list of waters for 2004, which contains a TMDL completion date for each and every impairment. Moreover, for water bodies listed in the Connecticut River watershed, there is no set plan for addressing any of the impairments other than statewide bacteria TMDLs (which may be coming out sometime in 2006?) and a Connecticut River nutrients TMDL. There are no compliance dates given for those impairments not caused by a pollutant (such as flow alteration).

Response: EPA guidance recommends that states identify which TMDLs will be developed in each of the two years leading up to the publication of the next 303(d) list, and the approximate number of TMDLs to be derived for each year thereafter. The guidance goes on to say, "States need not specifically identify each TMDL as high, medium or low priority. Instead, the schedule itself can reflect the State's priority ranking." The TMDL schedule is intended to communicate the State's priorities to the public and the EPA and to assist with the allocation of resources to the TMDL development effort. As such, the schedule is not subject to approval by the EPA. Massachusetts' priorities for TMDL development over the next several years are presented at http://www.mass.gov/dep/water/priorities/rstrwqwp.htm.

Comment: Delays are hindering the watershed approach and the inclusion of recent data into the Integrated List. CRWC is profoundly disappointed that the data MA DEP collected in 2003 for the Connecticut River watershed (mainstem) were not processed and quality-checked for inclusion into the Proposed List. At this point, the most recent data is from 1998, which is 8 years old. At this rate, it is very possible that MA DEP will remove waters from assessment categories faster than it collects data and, in effect, never take affirmative steps toward the CWA's purposes.

Response: MassDEP acknowledges and regrets the substantial delay between the time it performs the watershed monitoring surveys and the time that the subsequent assessments are completed. The present backlog can be attributed to the loss of monitoring and assessment staff in recent years and an insufficiency of data management support. It is MassDEP's goal to develop a plan to catch up on the assessment backlog by hiring new personnel while streamlining the reporting process. Meanwhile, however, there are only a few circumstances under which EPA guidance allows a previously listed waterbody to be removed from the 303(d) List without calculating a TMDL. These are: 1) when a new assessment reveals that the waterbody is now meeting all applicable water quality standards or is expected

to meet those standards in a reasonable timeframe as the result of implementation of required pollution controls; and 2) when, upon re-examination, the original basis for listing is determined to be flawed.

8) Mystic River Watershed Association

("MyRWA appreciates the effort that DEP has spent assessing the Mystic River watershed and preparing this report. Below we have listed important waterbodies that need to be assessed for fish consumption, waterbodies for which we have collected data that supports adding impairments and subsequent TMDLs, and waterbodies that have been completely overlooked by DEP. We hope that you will consider the information below and make the appropriate changes to the 2006 Integrated List.")

Comment: MyRWA notes that DEP has listed Bellevue Pond and Hills Pond in Category 3, "No Uses Assessed." MyRWA recommends that Bellevue Pond (Medford) and Hills Pond (Arlington) be assessed in the next round of assessments for the Mystic watershed. In addition MyRWA requests that DEP evaluate fish consumption on the Mystic River mainstem, Blair Pond, Horn Pond, and Upper Mystic Lake, since these waterbodies were identified by the public as areas where they have fished or have seen people fish and where there has been no assessment to date. Attached is a spreadsheet containing data from a river use assessment that MyRWA performed in the summer of 2003 for the main stem of the Mystic River (Appendix 1). The column labeled "fishing/angling total" clearly documents the extent of fishing activity on the Mystic River mainstem. MyRWA has a goal to make the Mystic River fishable and swimmable by 2010. An assessment of fish tissue, to determine if the fish in the Mystic River mainstem, Blair Pond, Horn Pond, and Upper Mystic Lake can be consumed without health risks, will help toward our goal.

Response: MassDEP performs watershed monitoring and assessment activities in accordance with a five-year rotating schedule. Unfortunately, due to resource constraints, MassDEP has fallen behind in its schedule for completing these assessments. Nonetheless, the MassDEP anticipates that assessments will be initiated for the Boston Harbor watersheds (i.e., Mystic, Neponset, Weymouth & Weir) sometime in mid-to-late 2008. Because the MassDEP has performed limited monitoring in these watersheds since the preparation of the last assessment in 2002 the new assessment will rely heavily on any data of known and documented quality that can be gathered from sources other than MassDEP, such as other agencies and organizations that monitor. Note, however, that Bellevue and Hills ponds will only be assessed if sufficient data and information are available for making an assessment. If sufficient information is not presently available MassDEP will consider collecting data at these ponds when we are scheduled to be in this watershed in 2009.

The MassDEP makes the assessment of the fish-consumption use based on the most recent list of site-specific fish-consumption advisories issued by the Massachusetts Department of Public Health (MDPH). The EPA considers a fish-consumption advisory as sufficient evidence that the fish-consumption use is not supported when that advisory is based on actual fish tissue data collected from the particular waterbody in question. The MDPH list identifies those waterbodies where elevated levels of a specific contaminant in edible portions of fish pose a health risk for human consumption. Therefore, the fish-consumption use is assessed as "non-support" for these waters. The MDPH has also issued a statewide advisory pertaining to the presence of mercury in freshwater fish. Although applicable only to specified members of the population, namely pregnant women, women of child-bearing age who may become pregnant, nursing mothers and children under 12 years of age, this advisory encompasses all fresh waters whether or not actual fish-toxics data are available from them. As such, no freshwaters in Massachusetts can be considered as "fully supporting" the fish-consumption use. The MassDEP performed fish toxics monitoring in 1999 at two sites in the Mystic River Watershed. Sampling was conducted using boat electrofishing on June 24,1999 in the mainstem Mystic River/Lower Mystic Lake in Medford, and on July 8, 1999 at the Upper Mystic Lake (Winchester/Arlington/Medford). Edible fillets were analyzed for the presence of heavy metals, PCB, and organochlorine pesticides. The Massachusetts Department of Public Health (MDPH) reviewed the data and concluded that no site-specific freshwater fish consumption advisories were warranted. Nonetheless, because of the statewide advisory, no waters

can be assessed as "support" for the fish-consumption use; thus, the fish-consumption use of these two Mystic River segments is "not assessed".

MassDEP has not sampled Blair and Horn ponds for the analysis of toxic contaminants in fish tissue, and MassDEP monitoring activities are not scheduled again in the Boston Harbor drainages until 2009. However, as part of its participation on the Interagency Committee on Fish Toxics, the MassDEP samples a small number of waters each year at the request of the general public. These requests are not limited to waterbodies situated in the watersheds that are scheduled for ambient water quality monitoring in any given year. Therefore, it is possible that Blair and Horn ponds could be sampled sooner than 2009 should the MyRWA decide to make such a request. It is important to note that a request for sampling does not guarantee that the sampling will be carried out. The Interagency Committee on Fish Toxics reviews and prioritizes all requests before making a final decision on where to sample each year. MassDEP will provide this information along with a public request form to the MyRWA.

Comment: In previous comment letters to DEP, MyRWA has suggested listing the following waterbodies: Mill Brook, Malden River, and Winn Brook as impaired for nutrients; and Wellington Brook for pathogens. MyRWA again suggests that these waterbodies be listed. MyRWA's Mystic Monitoring Network (MMN) has collected additional centerline data for some of these water bodies (see Appendix 2). In particular:

- The geometric mean for 18 *E. coli* samples collected in Wellington Brook from October 2004 to March 2006 was 1472 cfu/100mL. This is much higher than EPA's guidance criteria[1] of 126 cfu/100mL.

- The geometric mean for 21 total phosphorus samples collected in Mill Brook from February 2004 to December 2005 was 0.078 mg/L. Three sources cited in EPA's Nutrient Criteria Technical Guidance Manual[2] for rivers and streams recommend concentrations of 0.042 mg/L, 0.070 mg/L, and 0.035 mg/L. The geometric mean for Mill Brook is higher than all three recommendations.

- The geometric mean for 22 total phosphorus samples collected in the Malden River from February 2004 to December 2005 was 0.064 mg/L. This is higher than the recommended concentrations of two of the sources in the EPA guidance document[2].

- The geometric mean for 22 total phosphorus samples collected in Winn Brook from February 2004 to December 2005 was 0.110 mg/L. This is much higher than all three of the concentrations recommended in the EPA guidance document[2].

[1]Implementation Guidance for Ambient Water Quality Criteria for Bacteria, May 2002 Draft, EPA-823-B-02-003, http://www.epa.gov/ost/standards/bacteria/bacteria.pdf

[2]Nutrient Criteria Technical Guidance Manual: Rivers and Streams, July 2000, EPA-822-B-00-002, http://www.epa.gov/waterscience/criteria/nutrient/guidance/rivers/

Response: As acknowledged above, the MyRWA made similar comments on these four streams during past reviews of the Massachusetts 303(d) List (i.e., 2002 and 2004). MassDEP responded by presenting its requirements for submitting data and information for use in assessments and listing decisions. MassDEP uses data of known and documented quality to make assessments provided that samples were collected under the appropriate conditions for comparison with water quality standards. Data submittal guidelines and recommended content of 3rd party data reports are available directly from MassDEP's Division of Watershed Management (DWM) Office in Worcester. At a minimum, the MassDEP will accept and review data and information pertaining to the quality of Massachusetts' waters if the following are provided: 1) an appropriate Quality Assurance Project Plan including a laboratory Quality Assurance /Quality Control (QA/QC) plan, 2) use of a state certified lab (certified for the applicable analyses), 3) a description of data management, QA/QC and data validation procedures, and 4) the information is documented in a citable report that includes QA/QC analyses. Furthermore, the submittal of a complete data report with the information specified above does not guarantee that the data will automatically be used by the MassDEP for assessment and listing purposes. It simply allows MassDEP

to screen the data to evaluate their quality and usefulness for making assessments. While the MMN does indeed have an approved QAPP, the data submittal accompanying the MyRWA's comments in 2006, as well as in previous years, falls short of the requirements outlined above. In fact, the most recent submittal consisted of a single data table ("appendix 2") with none of the documentation needed to determine the validity and applicability of the data to the assessment process.

The EPA criteria manuals cited by the MyRWA provide guidance to states for establishing water quality standards for bacteria and nutrients. The criteria are not enforceable standards, however, and it is inappropriate to compare them with monitoring data to make decisions pertaining to use-support. For example, there are no numerical standards for nutrients in the Massachusetts Surface Water Quality Standards and the MassDEP does not place waters on the 303(d) list solely on the basis of nutrient concentration data. There are waterbodies across the state that have been observed to have high phosphorus concentrations but have not shown in-stream impairment because growth is limited for other reasons such as stream velocity or light penetration. On a case-by-case basis the MassDEP will use evidence of eutrophic conditions, such as wide ranges in dissolved oxygen concentration, elevated chlorophyll values or biological surveys (in combination with nutrient concentrations) that reveal algae or plant "bloom" conditions that result in one or more impaired uses, to add waters to the 303(d) List. However, nutrient concentrations above normal background levels do not, in and of themselves, constitute use-impairment. For all of the reasons cited above, the MassDEP is unable to list Mill Brook, Winn Brook and the Malden River as impaired by nutrients at this time.

Likewise, the MassDEP cannot list Wellington Brook as impaired by bacteria based on the information submitted by the MyRWA. To be evaluated for the primary contact recreational use the data must be representative of a sampling location (minimum of five sampling dates per station recommended) over the course of a single primary contact recreational season (April 1 through October 15). The dates of sampling by the MMN were 10/26/04, 9/27/05, 1/31/06, 3/2/06 and 3/28/06, representing a three-year period with only one sample date within the recreational season. Finally, neither the data tables submitted with the comment, nor the prevailing MMN QAPP, provides adequate descriptions of the sampling site locations or of the brook itself, which does not appear on USGS topographical maps or Mass GIS layers. MassDEP wishes to encourage MyRWA to continue collecting data on the waterbodies in question. If you have questions about how to adjust your efforts to collect data that can be used for listing purposes in the future you should contact the Division of Watershed Management in the MassDEP Worcester office.

Comment: Our recent data collections also suggest that several other waterbodies should be identified on the 2006 Integrated List as impaired. We recommend that Cummings Brook (Woburn), Little Brook (Woburn), Meetinghouse Brook (Medford), Sales Creek (Revere), Shaker Glen Brook (Woburn), Sickle Brook (Lexington), and Whipple Brook (Winchester) be listed for pathogens. In addition, we also recommend that Meetinghouse Brook (Medford) be listed for nutrients. In particular:

- Sales Creek is part of the Belle Isle portion of the Rumney Marshes Area of Critical Environmental Concern (ACEC). We strongly urge that Sales Creek be included in the next round of assessments in the Mystic watershed. Furthermore, it should be listed as impaired for pathogens. The geometric mean for seven *E. coli* samples collected in Sales Creek from December 2004 to July 2005 was >1722 cfu/100mL. This is much higher than EPA's guidance criteria[1]. Data from several additional fecal coliform samples is provided in Appendix 2.

- The geometric mean for 22 *E. coli* samples collected in Meetinghouse Brook from February 2004 to December 2005 was 368 cfu/100mL. This is higher than EPA's guidance criteria[1] of 126 cfu/100mL. Furthermore, six of the 22 samples had concentrations greater than 1000 cfu/100mL, with the maximum being 45,800 cfu/100mL.

- The geometric mean for 22 total phosphorus samples collected in Meetinghouse Brook from February 2004 to December 2005 was 0.062 mg/L. This is higher than the recommended concentrations of two of the sources in the EPA guidance document[2].

The description of Mill Brook (Arlington) in the list of category 5 waters requiring a TMDL indicates that the upper portion of the brook starts at Arlington Reservoir. However, the Brook actually starts in Lexington's Great Meadows. Either the description should be altered accordingly, or an additional segment should be listed as impaired for pathogens. Two *E. coli* samples collected on the Brook between Great Meadows and Arlington Reservoir in August 2005 had concentrations of 1102 and 5654 cfu/100mL, respectively. A fecal coliform sample collected in October 2005 had a concentration of 8000 cfu/100mL.

Attached are the complete bacteria and total phosphorus data summarized above (see Appendix 2). All of these data were collected by the MMN under our DEP-approved QAPP and have met strict quality assurance/quality control objectives.

[1]Implementation Guidance for Ambient Water Quality Criteria for Bacteria, May 2002 Draft, EPA-823-B-02-003, http://www.epa.gov/ost/standards/bacteria/bacteria.pdf

[2]Nutrient Criteria Technical Guidance Manual: Rivers and Streams, July 2000, EPA-822-B-00-002, http://www.epa.gov/waterscience/criteria/nutrient/guidance/rivers/

Response: The response to the previous comment is equally applicable here. The data table submitted presently does not meet the requirements that MassDEP has established for accepting data and information from external sources, nor do most waters come close to meeting the minimum data requirements for making assessments. Only Meetinghouse Brook appears to have adequate sampling coverage throughout the recreational season, but it is lacking all other critical documentation. For these reasons the MassDEP is unable to list these waters as impaired at this time.

Comment: Appendix 4 of the most recent Integrated List report does not include many of the waterbodies in the Mystic watershed. We request that DEP include information on the criteria used in choosing segments to include in the Integrated List. MyRWA requests that DEP add Upper Mystic Lake, Wellington Brook, Meetinghouse Brook, Cummings Brook, Shaker Glen Brook, Sickle Brook, Whipple Brook, Horn Pond Brook, Island End River, Sales Creek, and Spot Pond to the list of segments of the Mystic River Watershed. We believe that these segments are large enough and important enough recreationally, ecologically, and hydrologically to be listed separately from other segments.

Response: The absence from the Integrated List of the waters listed above has nothing to do with their size or importance. The Integrated List is not intended to be a complete inventory of all of the surface waters in the Commonwealth, and waters that have never been assessed by the MassDEP do not appear anywhere on the list. Nonetheless, waters that do not appear in any category of the list are Category 3 ("unassessed") waters. Because resources are unavailable to input the entire inventory of surface waters into the database where assessments are stored, waters are only added to the list as new watershed assessments are completed. However, MassDEP will add some of the waters listed above to the 2006 Integrated List as time and resources allow.

APPENDIX

Massachusetts Year 2006 Integrated List of Waters
Connecticut River Watershed Council Comments and MassDEP Responses

Massachusetts Year 2006 Integrated List of Waters
Connecticut River Watershed Council Comments and MassDEP Responses

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Chicopee River watershed				
Browning Pond		No change. Listed in category 4c (organic enrichment/low DO, noxious aquatic plants, exotic species).	This water body was covered in the Chicopee basin lakes TMDL report from 2002 for low DO and Noxious Plants. Why is it not listed in category 4a like the other lakes from this TMDL? Listing it in Category 4c indicates that this impairment is not caused by a pollutant. DEP has disclosed no evidence that the impairment is not caused by a pollutant and specifically no documentation that this isn't a nutrient issue from, for example, nonpoint source pollution.	See Note 1
Eames Pond	MA36056	Listed as a category 5 water. In 2002, pollutants were organic enrichment/low DO and noxious aquatic plants. In 2004, noxious aquatic plants were removed from the list.	DEP has not made it clear why noxious aquatic plants were removed from the list. This should be explained.	See Note 2
Quabog Pond	MA36013	Listed as category 5. In 2006, two new pollutants were added: nutrients and noxious aquatic plants. Other impairments are metals and exotic species.	There is no indication of the source of the data for this change.	See Note 3
Quacumquasit Pond	MA36131	Listed in 2002 and 2004 under category 5 for metals and exotic species. Changed in 2006 to category 4c, category not caused by a pollutant.	We think this water body should be listed in 4b, along with other water bodies covered under the mercury pollution control measure. DEP has yet to explain publicly why any of the water bodies impaired by Hg are properly included in category 4c.	See Note 1
Sugden Reservoir	MA36150	No change. Listed in category 4a, TMDL is complete.	"Pollutants addressed by a TMDL" column in category 4a lists turbidity as a pollutant covered in the TMDL for Chicopee basin lakes. This pollutant was not identified in Table 1 of that report (see http://www.mass.gov/dep/water/resources/chicopee.pdf). Please explain.	See Note 4
Connecticut River watershed				
Bennett Brook	NA	Not listed.	This water body was identified in the EOEA CT River 5-year action plan (2003) as a high priority tributary for reducing nonpoint source (NPS) pollution. This water body should be listed in the Integrated List.	See Note 5

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Bloody Brook and Great Swamp	NA	Not listed.	These water bodies were identified on page 29 of the EOEA CT River 5-year action plan (2003) as having impaired water quality due to urban and agricultural runoff, citing a Mill River Study. These water bodies should be listed in the Integrated List.	See Note 5
Connecticut River	MA34-01 MA34-02	No change. Listed as category 5	Both of these river segments are listed in category 5 for flow alteration and other habitat alterations. This segment is impaired due to river fluctuations from two hydroelectric facilities. CRWC recommends that DEP gather data to assess whether this segment is also impaired due to turbidity, total suspended solids, or some other pollutant associated with erosion and mass wasting.	See Note 6
Fall River	NA	Bernardston and Greenfield. Not listed.	This water body was identified in the EOEA CT River 5-year action plan (2003) as a high priority tributary for reducing NPS pollution. This water body should be listed in the Integrated List. The MA DFW stocks this river annually with Atlantic salmon fry.	See Note 5
Fourmile Brook	NA	Northfield. Not listed.	This water body was identified in the EOEA CT River 5-year action plan (2003) as a high priority tributary for reducing NPS pollution. This water body should be listed in the Integrated List.	See Note 5
Leverett Pond	MA34042	No change. Listed in category 4c, impairment not caused by a pollutant.	Addressed in Connecticut basin lakes TMDL for noxious plants and turbidity. See http://www.mass.gov/dep/water/resources/conntmdl.pdf. Why is this not listed in Category 4a? What basis does the state have for saying that turbidity is not caused by a pollutant?	See Note 1
Log Pond Cove	MA34124	No change. Listed as a category 5 water.	This is a cove of the Connecticut River and should be described as such.	See Note 7
Mountain Lake	MA34055	No change. Listed as category 5.	Also called Roberts Pond. The dam that created this manmade lake blew out in the summer of 2005. This is currently not a lake and is not 10.5 acres at the moment. The future of the impoundment is yet to be decided.	See Note 8

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Mill River	MA34-19	Springfield's Mill River. No changes. Listed as a Category 3 waterbody.	This river is a receiving water for several Springfield CSOs. Some work has been done to eliminate these CSOs and the river has most certainly been sampled. Please review Springfield's Long-term CSO control plan and other data most likely available from the WERO. It is simply implausible for DEP to leave this water body listed as "unassessed."	See Note 8
Mill River Diversion	MA34-32	No change. Listed as category 3.	USGS has water quality data for this water body from October 2003 to September 2004. See USGS Water Report for Water Year 2004. Location is the USGS gaging station.	See Note 9
Holyoke Canal System	No ID	Currently not listed as a water body.	The Holyoke Canal System is a receiving water for Holyoke Gas & Electric's Cabot Street Station discharge (NPDES Permit No. MA0001520). Data presented in the Fact Sheet for this permit's renewal (final permit dated 12/8/06) indicate that water temperatures in the canal routinely exceed the Class B warm water fisheries standard of 83ºF during the summer. In EPA's response to comment document, they stated, "MA DEP will consider this comment [CRWC's comment on temperature impairment] in the cycle of updated its list of impaired waters [sic]." CRWC recommends that this water body be added to the list in Category 5, with heat being the pollutant. More water quality data on the canal are submitted to FERC annually as part of the Holyoke dam's license (P-2004), which are readily available in FERC's e-library.	See Note 8
Northfield Mountain Reservoir	MA34061	No change. This water body is listed as Category 2, with uses attained being secondary contact and aesthetics.	The reservoir is used for generating hydroelectric power from a pumped storage facility (FERC No. P-2485). This water is the same water as in the Connecticut River upstream of the Turners Falls dam. It should have the same water quality (impaired), if not worse. However, access is entirely prohibited; anyone engaging in secondary contact recreation at this reservoir is trespassing. DEP is misleading the public in listing this as a water that supports contact recreation.	See notes 8 and 10

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Oxbow	MA34066	No change. Listed as a category 5 water.	This is an Oxbow of the Connecticut River and is hydrologically connected to the river. It should be described as such. The Oxbow has known invasive species, such as water chestnut and milfoil. Contact the S.O. Conte Fish and Wildlife Refuge in Turners Falls. Exotic species should be added to its list of impairments.	See notes 7 and 8
Stony Brook	MA34-19	No change. Listed as a category 3 water.	There are weekly water quality monitoring data available from 1996 to the present from the Mount Holyoke College website at http://www.mtholyoke.edu/proj/cel/envmon/water.shtml. Please consider these data to move this water body out of category 3.	See Note 11
Lake Warner	MA34098	No change. Listed as a category 4c water.	Addressed in Connecticut basin lakes TMDL for nutrients, low DO, noxious plants, and turbidity. See http://www.mass.gov/dep/water/resources/conntmdl.pdf. Why is this not listed in Category 4a? What basis does the state have for saying that impairment is not caused by a pollutant? The EOEA CT River watershed 5-year action plan (page 30) says that this lake receives runoff from agricultural lands upstream. This lake also receives runoff from parking lots and malls.	See Note 1
Unnamed Tributary	MA34-31	No change. Continues to be category 3 even though Lake Warner (upstream) is impaired.	We do not understand why this water body is unnamed, when it is the outfall of Lake Warner, an impoundment of Mill River (MA34-25) upstream.	See Note 7
Willimansett Brook	NA	Not listed. This is the stream on which Mountain Lake (MA34055) is located.	Consider adding to list, especially given that Mountain Lake no longer exists as a lake.	See Note 8
Various ponds in Springfield			In 2001, EPA awarded the City of Springfield with a $356,000 grant to monitor water quality and fish tissue in 13 city lakes and ponds, including Watershops Pond. See http://www.epa.gov/NE/pr/2001/jan/010401.html. If the data are publicly accessible, CRWC has been unable to find them. We urge DEP to find the data and incorporate them into the Integrated List.	See Note 8
\Deerfield River watershed				

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Ashfield Pond	MA33001	Was listed as a category 2 water body in 2002, with secondary contact and aesthetics as uses attained. Changed in 2004 to category 3, no uses assessed.	This pond is Ashfield's town swimming area. As such, under 105 CMR 455 (http://www.mass.gov/Eeohhs2/docs/dph/regs/105cmr445.pdf), the Ashfield Board of Health must conduct weekly sampling during the swimming season. Table 22 of the 2005 Beach Report for the MA Dept. of Public Health http://www.mass.gov/Eeohhs2/docs/dph/environmental/exposure/beach_annual_report05.pdf) indicates that many samples did get collected. Why DEP has not used these data is a mystery. DEP should do a full scan of the beaches listed in this annual report and compare it against the Integrated List, or explain why the data are not of a good enough quality for use.	See Note 12
Bear River	MA33-17	Text description "near trail" removed from 2006 list but present in 2002 and 2004 list. River is listed as a category 2 water body – primary and secondary recreation uses were removed from list of uses attained in the 2004 list compared to 2002 list.	Why change text description? On what grounds is DEP removing two designated uses of this water body?	See Note 3
Bozrah Brook	MA33-13	Was listed as a category 2 water body in 2002, with aquatic life, secondary contact, and aesthetics as uses attained. Changed to category 3 water body in 2004.	It is unclear from the Proposed List how or why any attained uses could be deleted, and how water bodies can be transferred to a different category with no explanation. DEP's rationale should be available for public review.	See Note 3
Chickley River	MA33-11	Text description and river mileage changed significantly between 2002 and 2004.	Has this river segment changed, and if so, why?	See Note 7
Davis Mine Brook	MA33-18	Listed as a category 5 water. In 2002, impairments were pH and other habitat alterations. In 2004, other habitat alterations was removed from the list.	Why? On what grounds is DEP listing this water in category 5?	See Note 3
Deerfield River	MA33-01	Listed as a category 5 water in 2002, with an impairment of metals. Changed to category 2 water in 2004, with uses assessed of AL, PC, SC, and Ae.	How is this possible without some intervening action taken to improve the water quality? Has DEP implemented a TMDL for this water without notifying the public?	See notes 3 and 13
Deerfield River	MA33-02	Listed as a category 5 water in 2002, with a impairments of unknown toxicity, metals, and chlorine. Changed to category 2 water in 2004, with uses assessed of AL, PC, SC, and Ae.	How is this possible without some intervening action taken to improve the water quality? Has DEP implemented a TMDL for this water without notifying the public? Is there some other means of delisting that hasn't been explained?	See notes 3 and 13

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Green River	MA33-09	VT line to Greenfield WWTP. Listed as category 5 water in 2002, with impairments of cause unknown, metals, and pathogens. Now part of MA33-28, MA33-29, and MA-30.	What happened to the impairments of cause unknown and metals? These have disappeared from the listing without a TMDL.	See notes 3 and 13
Green River	MA33-10	Greenfield WWTP to Deerfield River. Listed as category 5 water in 2002, with impairments of cause unknown, metals, unionized ammonia, and pathogens. Now part of MA33-30.	What happened to the impairments of cause unknown, metals, and unionized ammonia? These have disappeared from the listing without a TMDL.	See notes 3 and 13
Lower Reservoir	MA33028	Category 2 water in 2002, with uses assessed of SC and Ae. Changed to category 3 water in 2004.	Why?	See Note 3
North River	MA33-06	Listed as a category 5 water due to pathogens and taste, color, and odor. Changed to category 2 water in 2004, with uses assessed of AL, PC, SC, and Ae.	The rationale for taking this river off the Category 5 list is not given anywhere. DEP should explain. Is DEP aware of and/or using data collected by the Deerfield River Watershed Association (see http://www.deerfieldriver.org/waterquality.html#latest)?	See Note 3
Plainfield Pond	MA33017	Listed as category 5 in 2002 with impairments of metals and noxious aquatic plants. Noxious aquatic plants dropped in 2004. Changed to category 4b in 2006 based on mercury pollution control measure.	Why were noxious aquatic plants dropped as an impairment?	See Note 2
Sherman Reservoir	MA33018	Category 5 water. Size of this hydroelectric impoundment was listed as 72.4 acres in 2002, 154 acres in 2004, and 162 acres in 2006.	Which is correct? Local papers have had articles about PCB issues related to the decommissioned Yankee Atomic plant in Rowe, which is on the banks of this reservoir. Were the PCBs not in the water?	See Note 14
South River	MA33-08	Category 5 water. Impairments of cause unknown, other habitat alterations, and pathogens listed in 2002. "Cause unknown" was removed in 2004.	It is unclear why "cause unknown" has been removed. Has DEP used data from the Deerfield River Watershed Association (see http://www.deerfieldriver.org/waterquality.html#latest)?	See Note 3
Tannery Pond	MA33020	Listed as category 5 water in 2002 due to flow alteration. Changed to Category 4c in 2004 based on flow alteration.	Does this reflect a change in MADEP's policy towards flow alteration?	See Note 15
Upper Greenfield Reservoir	MA33021	Newly listed as category 3 water in 2004.	Isn't this one of Greenfield's drinking water sources, and as such, must have some water quality assessments?	See Note 16

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Upper Reservoir Bear Swamp	MA33026	Listed as a category 2 water in 2002, with uses assessed of SC and Ae. Changed to category 3 water in 2004.	The reservoir is used for generating hydroelectric power from a pumped storage facility (FERC No. P-2669). This water is the same water as the Deerfield River in Rowe. It should have the same water quality. However, access to this reservoir by the general public is strictly forbidden by the power company.	See Note 17
Farmington River watershed				
Benton Brook	MA31-11	Text description changed in 2006 with a deletion of "through several wetlands."	Why changed?	See Note 7
Clam River	MA31-03	Text description changed in 2006 with a deletion of "just north of the village of Roosterville."	Why changed?	See Note 7
Cranberry Pond	MA31008	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
Hubbard Brook	MA31-16	Text description in 2002 mentioned CT state line. Changed in 2004 to something more confusing.	Use old description.	See Note 7
Long Bow Lake	MA31019	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
Lower Spectacle Pond	MA31020	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
Sandy Brook	MA31-14	Text description in 2002 mentioned CT state line. Changed in 2004 to something more confusing.	Use old description.	See Note 7
Shales Brook	MA31-04	Listed as a category 2 water in 2002 and 2004, with uses assessed of AL, PC, SC, and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
Silver Brook	MA31-13	Listed as a category 2 water in 2002 and 2004, with uses assessed of PC, SC, and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
Silver Shield Pond	MA31054	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Unnamed Tributary	MA31-09	Listed as a category 2 water in 2002 and 2004, with uses assessed of PC, SC, and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
West Branch Farmington River	MA31-01	Listed as a category 2 water in 2002 and 2004, with uses assessed of AL, PC, SC, and Ae. Changed to category 5 water in 2006 due to cause unknown.	What water quality parameter was exceeded such that this is now a category 5 water? "Cause unknown" does not identify the impairment, it only speaks to the cause.	See Note 3
West Lake	MA31050	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
White Lily Pond	MA31051	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not given.	See Note 3
Millers River watershed				
Bassett Pond	MA35002	Listed as a category 2 water in 2002, with uses assessed of SC and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Bents Pond	MA35006	Gardner or Hubbardston. Listed as a category 2 water in 2002, with uses assessed of SC and Ae. Changed to a category 3 water in 2004.	DEP has been inconsistent listing the segment ID and which town this Bents Pond is vs. the other Bents Pond. Rationale for deleting assessed uses is not given.	See Note 3
Boyce Brook	MA35-17	Listed as a category 3 water in 2002. Changed to category 5 water due to priority organics and metals in 2004.	Unclear what assessed uses are impaired, and what "metals" and "priority organics" means. Is this a fish tissue impairment, or a water quality impairment? Which metal? Which priority organic?	See Note 3
Cowee Pond	MA35013	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Crystal Lake	MA35014	Listed as a category 2 water in 2002, with uses assessed of SC and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Davenport Pond	MA35015	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Ellis Pond	MA35023	No change. Listed as category 4c.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Why are some lakes that are covered under the TMDL for noxious aquatic plants listed in category 4a and some in 4c? DEP appears to be inconsistent.	See Note 1

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Greenwood Pond 1	MA35025	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Little Pond	MA35037	Listed as a category 2 water in 2002, with uses assessed of SC and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Lake Mattawa	MA35112	Listed as a category 2 water. Uses attained in 2002 was SC. New uses of PC and Ae added in 2004.	Source of new data for this change was not given.	See Note 3
Lower Naukeag Lake	MA35041	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Millers River	MA35-20	Newly listed as category 5 water in 2004 due to metals.	What kind of metals? Is this atmospheric mercury or some other pollutant? Is it in fish, sediment, or the water column?	See Note 3
Minott Pond	MA35046	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Minott Pond South	MA35045	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Lake Monomonac	MA35047	No change. Listed as category 4c.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Why are some lakes that are covered under the TMDL for noxious aquatic plants listed in category 4a and some in 4c? The state appears to be inconsistent.	See Note 1
North Spectacle Pond	MA35052	Listed as a category 2 water in 2002, with uses assessed of SC and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Otter River	MA35-06	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to category 5 water in 2004 due to priority organics and metals.	What priority organics and what metals? Fish tissue, sediment, or water column? Can't the list be made more specific?	See Note 3
Packard Pond	MA35053	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Parker Pond	MA35056	No change. Listed as category 4c.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Why are some lakes that are covered under the TMDL for noxious aquatic plants listed in category 4a and some in 4c? The state appears to be inconsistent.	See Note 1

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Partridgeville Pond	MA35057	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Perley Brook Reservoir	MA35059	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not given.	See Note 3
Phillipston Reservoir	MA35060	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	Why?	See Note 3
Reservoir No. 2	MA35064	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Riceville Pond	MA35065	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Lake Rohunta	MA35106	North basin. Listed as category 5 water in 2002 due to metals, noxious aquatic plants, and exotic species. Changed to category 4c in 2006 for Hg pollution control and exotic species.	What happened to the noxious aquatic plants listing?	See Note 2
Sheomet Lake	MA35074	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	This lake is apparently a state-maintained lake for fishing only. How could no uses be assessed, including AL? EPA Integrated List Guidance for 2006 says that "In each section 305(b) submittal, [there must be] an assessment of the status and trends of significant publicly owned lakes including extent of point source, nonpoint source impacts due to toxics, conventional pollutants, and acidification." Has DEP fulfilled this requirement state-wide??	See Note 19
South Athol Pond	MA35078	No change. Listed as category 4c.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Why are some lakes that are covered under the TMDL for noxious aquatic plants listed in category 4a and some in 4c? DEP appears to be inconsistent.	See Note 1
Tully Lake	MA35111	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	The beach at the campground at Tully Lake in Royalston is sampled weekly. Should not be category 3. See previous comment for Ashfield Lake in the Deerfield watershed.	See Note 12

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Upper Naukeag Lake	MA35090	Listed as category 5 in 2002 and 2004 due to metals. Changed to category 4b in 2006 based on mercury pollution control measure.	In the Millers basin in particular, it is difficult to determine the meaning of a "metals" impairment listing by the DEP. Does this mean statewide Hg impairment in fish or is it a different kind of metal contamination? The Millers basin has both types, and it is difficult as an advocate to determine the meaning of the Integrated List cell descriptions. The impairments should be made specific. "Priority organics" should say PCBs or whatever the specific impairment. Metals should say something more specific.	See Note 3
Wallace Pond	MA35092	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Ward Pond	MA35093	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Wickett Pond	MA35102	Listed as a category 2 water in 2002, with uses assessed of AL and Ae. Changed to a category 3 water in 2004.	Rationale for deleting assessed uses is not provided.	See Note 3
Wrights Reservoir	MA35104	No change. Listed as a category 3 water.	Covered in TMDL for Millers basin lakes in 2002 for noxious aquatic plants. Shouldn't this waterbody be listed in category 4a?.	See Note 18
Westfield River watershed				
Ashley Cutoff	MA32001	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Ashley Pond	MA32002	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Borden Brook Reservoir	MA32011	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Buckley-Dunton Lake	MA32013	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Clear Pond	MA32077	Listed as a category 2 water in 2002 and 2004, with uses assessed of PC, SC, and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Cobble Mountain Reservoir	MA32018	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Isn't this Springfield's water supply reservoir, and wouldn't it be assessed?	See Note 16
Depot Brook	MA32-17	Text description changed and category 2 uses attained changed in 2006 from AL to SC and Ae.	Rationale for dropping two uses is not explained.	See Note 3
Garnet Lake	MA32037	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Granville Reservoir	MA32038	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Hammond Pond	MA32040	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided. Hammond Acres beach (on this pond?) has weekly bacteria samples.	See notes 3 and 12
Little River	MA32-36	Newly listed in 2006 as a category 5 water due to siltation.	What happened to flow alteration impairment from MA32-26 in 2002 and 2004?	See Note 3
Littleville Lake	MA32046	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
McLean Reservoir	MA32050	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Meadow Brook	MA32-11	Listed as a category 2 water in 2002 and 2004, with uses assessed of PC, SC, and Ae. Changed to category 3 in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
Middle Branch Westfield River	MA32-02	Description changed in 2006. Mileage of river length changed in 2004 and again in 2006. Listed as category 2 water. Uses attained changed in 2006 from AL to PC, SC, and Ae.	Explain mileage change and uses change.	See notes 3 and 7
Middle Branch Westfield River	MA32-03	Listed as a category 2 water in 2002 and 2004, with uses assessed of AL, PC, SC, and Ae. Changed to a category 3 water in 2006.	Rationale for deleting assessed uses is not provided.	See Note 3
North Railroad Pond	MA32053	Listed as a category 5 water in 2002 due to noxious aquatic plants and turbidity. Changed to category 3 water in 2004.	It is a complete mystery how a water body could suddenly be dropped from a category 5 listing with no TMDL and no explanation.	See Note 13

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Pequot Pond	MA32055	Listed as a category 5 water in 2002 due to nutrients, organic enrichment/low DO, noxious aquatic plants, and exotic species. Noxious aquatic plants removed from the list in 2004.	What happened to the noxious plants impairment?	See Note 2
Powdermill Brook	MA32-09	Listed as a category 5 water in 2002 and 2004 due to siltation, pathogens, suspended solids, and turbidity. Pathogens removed from list in 2006.	What happened to the pathogens impairment.	See Note 3
Robin Hood Lake	MA32057	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed in 2006 to a category 3 water.	Two private beaches in Sherwood Forest are sampled weekly for bacteria and are in the MA DPH annual beach report. This should not be a category 3 water.	See Note 12
Rudd Pond	MA32060	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed in 2006 to a category 3 water.	Rationale for deleting assessed uses is not provided.	See Note 3
Russell Pond	MA32061	Listed as category 2 water. Uses attained changed in 2006 from SC and Ae to PC and SC.	How could one of the uses be suddenly deleted?	See Note 3
Scout Pond	MA32063	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed in 2006 to a category 3 water.	Rationale for deleting assessed uses is not provided.	See Note 3
Shaker Mill Brook	MA32-18	Listed as category 2 water. Uses attained changed in 2006 from PC, SC, and Ae to AL.	Rationale for deleting two assessed uses is not provided.	See Note 3
Watts Stream	MA32-14	Text description changed. Listed as category 2 water. Uses attained changed in 2006 from PC, SC, and Ae to AL	Rationale for deleting two assessed uses is not provided.	See Note 3
West Branch	MA32-13	Listed in 2002 and 2004 as a category 3 water. Waterbody name changed to "West Falls Branch" in 2006.	Why was the name changed?	See notes 3 and 7
Westfield Reservoir	MA32074	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed in 2006 to a category 3 water.	Rationale for deleting assessed uses is not provided.	See Note 3
Wright Pond	MA32078	Listed as a category 2 water in 2002 and 2004, with uses assessed of PC, SC, and Ae. Changed in 2006 to a category 3 water.	Rationale for deleting assessed uses is not provided.	See Note 3
Yokum Brook	MA32-19	Listed as category 2 water. Uses attained changed in 2006 from PC, SC, and Ae to AL and Ae.	Rationale for deleting two assessed uses is not given.	See Note 3

WATERBODY NAME	SEGMENT ID	DESCRIPTION OF CHANGE	CRWC QUESTION/COMMENT	MassDEP RESPONSE
Yokum Pond	MA32079	Listed as a category 2 water in 2002 and 2004, with uses assessed of SC and Ae. Changed in 2006 to a category 3 water.	Yokum Pond was found to have Eurasian milfoil in 2004. Contact Mercedes Gallagher of the Center Pond Weed Project at centerpondweedproject@yahoo.com. Consider changing designation.	See Note 20
General				
		The 2002 Integrated List had a separate column for assessment date. The column is not present in the 2004 and 2006 lists.	This column was very helpful and should be re-instated. Otherwise it's hard to tell what changes are based on.	See Note 3
		The mileage and acreages for most rivers and lakes changed between 2002 and 2004. There are a few changes between 2004 and 2006.	We assume this is related to having a more precise GIS system. Some lakes may change acreage due to beaver activity or dam removals. CRWC does not have the technology to check on these numbers.	See Note 7
		The title name for category 4b changed from 2004 to 2006.	What is the effect of changing the title of category 4b?	See Note 21

NOTES

Note 1: Waters exhibiting impairment for one or more uses are placed in either Category 4 (impaired but not requiring TMDLs) or Category 5 (impaired and requiring one or more TMDLs) in accordance with EPA guidance. Category 4 can be further divided into three sub-categories – 4a, 4b and 4c – depending upon the reason that TMDLs are not needed. Category 4a includes waters for which all of the required TMDL(s) have been completed and approved by the EPA, and no impairments related to non-pollutants exist for those waters. ***Because each segment is listed in only one category***, waters that have approved TMDLs for some pollutants, but not others, remain in Category 5 until TMDLs are approved for all of the pollutants. Likewise, waters that are impaired by non-pollutants remain in Category 4c even if they also have approved TMDLs for one or more pollutant. In any case, approved TMDLs are indicated by including the control number of the TMDL report and the EPA approval date next to the applicable pollutant irrespective of where (i.e., what category) the segment appears on the list.

Note 2: Many lakes and ponds that had appeared on earlier 303(d) lists because they were reported to have excessive native macrophyte or rooted plant growth were de-listed in 2002 or 2004 when it was determined that the plant growth was not caused by pollutant loadings. A review of the original data and information collected from these lakes revealed extensive naturally occurring shallow areas that provided ideal habitat for the proliferation of aquatic plants. Enough uncertainty existed with respect to whether or not these lakes were actually impaired to justify moving them to Category 3 of the Integrated List. Lakes impaired by algal blooms or mats or plants such as water meal or duckweed that exhibit blooming conditions in response to nutrient inputs were retained with the stressor "noxious aquatic plants" in Category 5. This practice was continued for the 2006 listing cycle.

Note 3: The Integrated List is ***not*** the document that provides the rationale for placing waters in the various categories of the list. The Integrated List simply provides a summary of the status of water bodies in relation to their assigned classification. The basis for listing individual waterbodies is documented in individual watershed assessment reports that are completed on a rotating watershed schedule and posted on the MassDEP's website at http://mass.gov/dep/water/resources/wqassess.htm. These reports present, for each segment or "assessment unit" (AU), a summary of all existing and readily available data and information pertaining to that AU and, if sufficient information exists, a determination with regard to whether or not individual designated uses are supported. CRWC has incorrectly concluded that beneficial use designations were being removed from waterbodies by the integrated listing process. This is simply not the case, nor do the assessment and listing requirements of the CWA have anything to do with the process of assigning beneficial uses to waterbodies. Rather, it is the water quality standards that classify waters, assign beneficial uses to those waters and define the criteria that must be met to support those uses.

Note 4: "Turbidity" never appeared on the 303(d) List as a stressor to Sugden Reservoir. The reservoir was 303(d)-listed in 1998 for "nutrients" and "organic enrichment/low DO". By the time of the publication of the next 303(d) list (i.e., 2002), a TMDL had been completed and approved for Sugden Reservoir and the waterbody was moved to Category 4a. At that time, "turbidity" was erroneously listed as a stressor covered by the TMDL. Therefore, this stressor will be removed from the final version of the 2006 list.

Note 5: The Mass DEP has established criteria for receiving and evaluating scientific data and information from outside sources, such as other state and federal agencies, universities and citizen monitoring groups. MassDEP will accept and review data and information pertaining to the quality of Massachusetts' waters if the following are provided: 1) an appropriate Quality Assurance Project Plan including a laboratory Quality Assurance/Quality Control (QA/QC) plan, 2) use of a state certified lab (certified for the applicable analyses), 3) a description of data validation and management QA/QC, and 4) all of the information is documented in a citable report that includes the QA/QC analyses. Data that fail to meet MassDEP's minimum qualifications are not used to make assessments. MassDEP has reviewed the EOEA Connecticut River Five-year Action Plan and determined that it does not meet the requirements described above for submitting data and information to be used for making assessments in accordance with sections 305(b) and 303(d) of the CWA. In fact, this document does not contain scientific data at all,

and provides little or no documentation for the findings and conclusions presented. Nonetheless, information contained in this report may be useful for corroborating data and information from other validated sources and to highlight potential issues and problems that should be addressed during the next MassDEP assessment of the Connecticut Watershed.

Note 6: Actually, "flow alteration" and "other habitat alterations" are non-pollutants, and these two segments would be listed in Category 4c if these were the only stressors affecting them. However, MA34-01 is also impaired by "pathogens" and "priority organics" and MA34-02 is impaired by "priority organics" so these segments are listed in Category 5. MassDEP is currently gathering data and information from all available sources in anticipation of the next assessment of the Connecticut Watershed.

Note 7: MassDEP follows pre-established conventions for naming and defining assessment units that are embodied in the *Stream and River Inventory System (SARIS)*, the *Pond and Lake Information System (PALIS),* and the *Coastal and Marine Identification System (CAMIS).* These systems rely on information from the United States Geological Survey (USGS) topographic quadrangles for waterbody names and other attributes. Segment definitions, once established, generally remain fixed for consistency throughout MassDEP's databases and reporting elements. However, slight adjustments may be made from one assessment cycle to the next as updated topographical maps or other geographical information become available.

Note 8: MassDEP is currently gathering data and information from all available sources in anticipation of the next assessment of the Connecticut Watershed. This comment will be considered as part of this assessment process.

Note 9: The USGS gage (No. 01171500) is not located on the Mill River Diversion Segment MA34-32. Rather, it is situated upstream from the Diversion in Segment MA32-28 of the Mill River. Nevertheless, USGS data from this gage will be reviewed as part of the next assessment of the Connecticut River Watershed.

Note 10: Massachusetts' Surface Water Quality Standards designate Class B waters as a habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation. As such, Class B waters must meet the criteria established for these uses irrespective of local constraints on their actual use. For example, swimming may be prohibited in certain Class B waters due to safety considerations or access issues, but the quality of those waters must still meet the requirements of the Class B standards.

Note 11: As described in Note 5, the MassDEP has established criteria for receiving and evaluating scientific data and information from outside sources, such as other state and federal agencies, universities and citizen monitoring groups. The MassDEP has reviewed the information provided at the Mount Holyoke College website and determined that it does not meet the requirements for submitting data and information to be used for making assessments in accordance with sections 305(b) and 303(d) of the CWA. As an example, no Quality Assurance Project Plan is available on the website and no citable data reports have ever been submitted to the MassDEP for consideration in making waterbody assessments. Nonetheless, information presented at this website may be useful for corroborating data and information from other validated sources and to highlight potential issues and problems that should be addressed during the next MassDEP assessment of the Connecticut Watershed.

Note 12: MassDEP's protocol for assessing the primary contact recreational use is presented in each watershed assessment report as well as in the introduction to the Integrated List document. For "public bathing beach" areas the MassDEP relies on information pertaining to formal beach postings/advisories that are imposed by local boards of health – or the Massachusetts Department of Conservation and Recreation (MADCR) at state bathing facilities – and reported to the Massachusetts Department of Public Health (MADPH) in accordance with Massachusetts' Beach Act. As each watershed assessment is carried out the MassDEP examines the most recent beach closure information available from the MADPH. It is important to note, however, that there is a much different level of compliance, and thus more uncertainty, with reporting to the MADPH on freshwater beaches than on marine beaches. As stated in MADPH's 2005 Annual Report, "most marine beach samples are analyzed at MADPH contracted

laboratories, while freshwater samples are analyzed at private laboratories or at municipal facilities". MADPH provides funding for monitoring at marine beaches, which results in much more diligence by the funded entities to report bacteria results to MADPH right away (i.e., within a day or so). Monitoring at freshwater beaches is not funded by the MADPH, and the deadline for reporting bacteria data is not until October 31st of each year.

Note 13: While it is true that the completion and approval of a TMDL is one instance where a water body or segment thereof (i.e., "assessment unit") can be removed from the 303(d) List of Impaired Waters, there are several other conditions under which the removal of a segment, from one listing cycle to the next, is warranted. These conditions are clearly specified in the USEPA guidance. One such condition is when "the assessment and interpretation of more recent or more accurate data in the record demonstrate that the applicable WQS(s) is being met" (p. 58, USEPA's 2006 Integrated Listing and Reporting Requirements). In this case, the most recent assessment determined that uses that were previously reported as impaired were now supported. This is not unusual because historical 303(d) listings were sometimes based on anecdotal information or insufficient or suspect monitoring data. For example, field techniques employed in the past for the collection of water samples for trace metals analyses are now considered inadequate for that purpose, which creates considerable uncertainty with regard to the validity of early metals data. For more recent listing cycles, however, MassDEP has utilized an assessment and listing methodology based on US EPA guidance that is grounded in more scientifically defensible, validated environmental data and information (see the US EPA's *Consolidated Assessment and Listing Methodology* or "CALM" document).

Note 14: The area of Sherman Reservoir is actually reported as 72.4 acres in the final 2004 and proposed 2006 lists, which, as indicated in the description, accounts for the Massachusetts portion of the reservoir only. The larger surface area values reported in the 2002 and "proposed" (i.e., "Draft") 2004 lists reflect the total reservoir area, including the portion that lies in Vermont. Polychlorinated biphenyls (PCBs) exhibit low water solubility so analyses for PCBs in water samples are not particularly useful for determining the magnitude or extent of PCB contamination if it is present in the environment. Fish toxics monitoring for PCBs, organochlorine pesticides and selected heavy metals was performed by the MassDEP at Sherman Reservoir in 1995, leading to a MA DPH fish consumption advisory due to the presence of elevated levels of mercury in edible fish fillets. However, PCBs were not detected in any of the fish samples.

Note 15: The CWA distinguishes between "pollutants" such as nutrients, metals, pesticides, solids and pathogens that all require TMDLs and "pollution" such as low flow, habitat alterations or non-native species infestations that do not require TMDLs. Waterbodies impaired by "pollution" are included in Category 4c. The apparent change in the listing status of Tannery Pond does not represent a change in MassDEP policy. Rather, this pond was erroneously listed in Category 5 in 2002 and correctly placed in Category 4c on the 2004 list.

Note 16: As explained in each watershed assessment report, the MassDEP does not assess the *"Drinking Water Use"* for reporting under sections 305(b) and 303(d) of the Clean Water Act. Instead, general guidance on drinking water source protection of both surface water and groundwater sources is provided at http://www.mass.gov/dep/brp/dws/dwshome.htm. These waters are subject to stringent regulation in accordance with the Massachusetts Drinking Water Regulations. MassDEP's Drinking Water Program (DWP) has primacy for implementing the provisions of the Federal Safe Drinking Water Act. The DWP has also initiated work on its Source Water Assessment Program (SWAP), which requires that the Commonwealth delineate protection areas for all public ground and surface water sources, inventory land uses in these areas that may present potential threats to drinking water quality, determine the susceptibility of water supplies to contamination from these sources, and publicize the results.

Public water suppliers monitor their finished water (tap water) for major categories of both naturally occurring and man-made contaminants, such as: microbiological, inorganic, organic, pesticides, herbicides and radioactive contaminants. Specific information on community drinking water sources, including SWAP activities and drinking water quality information, are updated and distributed annually by

the public water system to its customers in a "Consumer Confidence Report". These reports are available from the public water system, the local boards of health, MA DPH and MassDEP.

Note 17: MassDEP will soon begin gathering data and information from all available sources in anticipation of the next assessment of the Deerfield Watershed. This comment will be considered as part of this assessment process.

Note 18: The introductory sections of both the 2004 and proposed 2006 integrated lists explain that many lakes and ponds that had appeared on earlier 303(d) lists because they were reported to have excessive native macrophyte or rooted plant growth were de-listed in 2002 or 2004 when it was determined that the plant growth was not caused by pollutant loadings. A review of the original data and information collected from these lakes revealed extensive naturally-occurring shallow areas that provided ideal habitat for the proliferation of aquatic plants. Enough uncertainty existed with respect to whether or not these lakes were actually impaired to justify moving them to Category 3 of the Integrated List. Lakes impaired by algal blooms or mats or plants, such as water meal or duckweed, that exhibit blooming conditions in response to nutrient inputs were retained with the stressor "noxious aquatic plants" on the 303(d) list (i.e., Category 5). This practice was continued for the 2006 listing cycle. It is true that TMDLs had been completed for some of these lakes prior to the time they were de-listed. These lakes do not appear in Category 4a because they are no longer considered impaired. Nevertheless, this does not invalidate those TMDLs. TMDLs can be calculated for any waters irrespective of their listing status and TMDLs for unimpaired waters are considered "protective" rather than "restorative". Nonetheless, in general, it is not Massachusetts' policy to focus limited resources on the development of TMDLs for unimpaired waters, and emphasis will continue to be placed on completing TMDLs for waters with confirmed impairments. (Note: All waters covered by a TMDL, whether or not they are impaired, are listed in Appendix 2 of the Proposed 2006 Integrated List of Waters.)

Note 19: The rationale for listing waters can be found in the individual watershed assessment reports published by the MassDEP. Massachusetts, like any other state, does not possess adequate resources to monitor and assess every waterbody in the Commonwealth. In fact, the appropriate technique for assessing all waters is to employ a probabilistic sampling design that entails randomly selecting a small number of monitoring sites and drawing state-wide inferences from the results. While this method allows for a determination of what *percentage* of all waters are meeting standards, it does not identify the specific waterbodies – other than the few actually sampled – that are included within that percentage. Therefore, the MassDEP relies on a deterministic sampling design implemented on the watershed schedule discussed in the integrated list document. In doing so, not every waterbody is monitored and assessed.

Note 20: MassDEP will soon begin gathering data and information from all available sources in anticipation of the next assessment of the Westfield Watershed. This comment will be considered as part of this assessment process.

Note 21: The title of Category 4b in the Final 2004 and "proposed" 2006 integrated list documents is exactly the same. The title of Category 4b was slightly different in the "proposed" (i.e., "Draft") 2004 document.